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**Destructive and
Constructive
Food Mixtures**

Dr. Axel Emil Gibson



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Destructive and Constructive
Food Mixtures

Gibson, Axel Emil

Destructive and Constructive Food Mixtures

By THE AUTHOR OF

"Prolonging Life Through Diet," "Sugar and Salt—
Foods or Poisons," "Life and Death of Diet"
"Psychology of Child-life," "Individuality in Diet," etc.



"In my practice as surgeon I am impressed by the alarming increase of cancer cases lately brought to my notice—an increase which, in the light of general hygienic and sanitary improvements of our time, can have no other cause than an indulgence in certain foodstuffs detrimental to the normal life of the body.

DR. CHAS. MAYO
Rochester, Minn.

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TO PROF. EDWARD B. WARMAN, A. M.—
for his untiring helpfulness as
friend, teacher and example,—
is this volume dedicated
by the author

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PREFACE

This book is written for those who are seriously looking for light on the obscurities of diet. The world is full of sufferers who have sinned against the laws of diet through ignorance of facts. For the complexities of modern life, with its staggering artificiality in every expression of living—where the natural instincts and cultured restraints are lost in a whirlpool of desires and unnatural appetites—it is a task of no ordinary magnitude for the individual to succeed in selecting with calm and unerring mind the food-stuffs conducive to his health, strength and usefulness.

Such a power of selection is attainable only on a basis of knowledge concerning the vital factors involved in the relation of certain food-stuffs to physiological chemistry—and, furthermore, in his moral courage and determination of will, to live up to this knowledge. For the power of truth, like any other power, is obtainable only through practical application.

The great majority of mankind is still in ignorance of the conditions that lead to a thorough and permanent enjoyment of perfect health—an ignorance which alone makes possible a traffic in the life-inimical food-preparations that constitute the principal dishes in our public and private bill-of-fares. It has become a tradition in the social household, that the very fact of the existence of a food

mixture—no matter how hygienically unreasonable—is a warrant for its right to be enjoyed. *Vox populi vox Dei* has not only its field of application in the political and social world, but also in a presumptuous kitchendom, where the voice of the cook almost holds the prerogatives of the voice of God.

It seems to be a law in our present mongrel type of life, that the wisdom of health shall be taught by the lesson of disease, and only those that have paid the severe penalty of the latter, shall be able to realize the profound significance of the former. It seems, that only at a certain point of suffering, the individual finds the insight and the power to shake himself loose from the thralldom of a sensuous, whimsical appetite, and stand ready to sacrifice the transitory joys of the palate, for the possession or re-possession of that sustained flow of exuberance, that triumph of efficacy, and that radiance of feeling and good will, which accompany all true health.

It is in the realization of this fact—the supreme importance to human life and usefulness of an adequate knowledge concerning the principles underlying our food-stuffs and their destructive and constructive mixtures—that this book has been produced. It proposes to offer a practical health-guide to the individual who takes his life seriously, and who is desirous to know the laws of health, not in order to evade them, but to obey them.

CHAPTER I.

SELF-INDULGENCE AND THE LAW OF EVOLUTION

We have been accustomed to regard the products of nature as the legitimate prey for human self-indulgence, while comprising as such every whimsical notion of cookery, ranging from the indefinable mixtures and culinary disguises of French cookery, down to the crude, simple form of home cooking, which in an unreliable taste has its only guide, and in exterior cleanliness its only virtue. For cleanliness, no matter how near it comes to godliness, in matters of diet, nevertheless, is a very unreliable protection for a diseased stomach or kidney, over against the ravages generated from a promiscuous and unhygienic mixture of foodstuffs.

If it is true that the individual has a moral and biologic right to everything brought within his power of enjoyment,—the drunkard, opium-eater and cigarette-fiend, are equally entitled to their life-destroying indulgences. If human life and habit should be gauged only by the range and power of individual opportunity, regardless as to physiological and sociological need and usefulness,

civilization and progress would inevitably run into degeneracy.

The fundamental and reassuring force in human evolution lies in the power and willingness of the individual to assert self-restraint in his relation to environments. For in this effort to resist the purely animal promptings of his sense-nature, the individual finds the mainspring and lever for an unhampered evolution of growth and power, as it is the very friction between the personal and the universal, between the individual will and the universal will, that brings out the inherent finer forces of human nature. The unresisted down-slide along the slippery path of sensual self-indulgence permits of no new evolution of energy to restore and reconstruct the dissipated emotions in the cyclic decline. The egotistical utilization of environmental opportunities,—without any other gauge or consideration of life than the power of an individual to appropriate and indulge,—saps the vital essence out of every nerve fibre, until stopped by the very fury of its consuming, insatiable desire, which by the exhausture and impotence of his nature, puts a limit to his excesses.

The very position of the individual as a free, willing agent in evolution;—the very fact of his endowment with powers and opportunities of universal application, is in itself a sign and demonstration of the responsibility with which he has been vested. The animal, lacking

this power of will and self-restraint, also lacks the opportunity of unrestricted indulgence, as its functional and structural limitations, chain it to fields and conditions promotive of its evolution;—while to man the realm of nature is laid open, and a key offered him to the freedom of every domain.

CHAPTER II.

EGOTISM AS A FACTOR IN DIET

This invitation to the human being to take charge of every aspect and condition of nature holds in its very acceptance a pledge of trust and responsibility. For in this fact of being trusted lies the certainty that in case of delinquency nature has recourse to methods of checking and readjusting, by which the individual, sooner or later, is compelled, in terms of enforced renunciations, to redeem his own pledges. Progress itself would be meaningless and untenable were it not for this inescapable Nemesis of evolution, driving out the individual transgressor from his intrenchments in this guerilla war with his moral obligations. Hence the individual is free only within the bounds of law;—i. e., only within the limits of the integral, full-orbed expression of his biologic, physiologic and moral nature; and thus while vested with the potential rulership of his personality, is yet under the restrictions of his constitutional limitations. His acts are weights, thrown into the scales of life and death, health or disease; and the conditions of

his nature will show the extent to which he is able to effect a readjustment or equipoise of his evolutionary balance.

In this critical position, however, the individual is not left without guidance. Reason, if heeded and obeyed, is as reliable a counsellor to the individual mind as the instinct is to the animal. But the test as to the sanity and safety of an enjoyment must ever be found in its degree of usefulness to the system of the individual. If a foodstuff does not lead to increased health, strength and usefulness, it is wrong to eat it. For food should have only one object: to render the eater physically more capable to serve his fellowmen. The ways of evolution, like those of the gospel, are two only: God or mammon, health or disease, manhood or beasthood. The result of any indulgence faces us in processes of appropriate retribution: either in form of digestion or fermentation—of nutrition or poisoning.

It is the egotism of the human creature that prompts him to regard every effort and expression of nature as specially produced for him and for his personal enjoyment. Mankind has yet to learn to regard the display of nature's riches with equanimity and impersonality, as fulfilling other aims and destinies than to be sacrificed to the mere whims and notions of an eccentric appetite. It was Emerson who made the observation that it expresses more love for a flower to enjoy its

beauty on the field—a joy for all—than to carry it off as a personal possession.

This desire to possess for its own sake, is manifested in every aspect of human life, and lies back of every dietetic transgression of the individual. No sooner does his eye fall upon a thing, tempting to his appetite, than he wildly desires its possession and indulgence. He forgets that nature is not more made for man, than man is made for nature. He forgets that there is a purpose in Nature all her own, and that her output, while incidentally for the benefit of man, is essentially for the benefit of her own life and progress. Hence the menu which evolution prepares for man is made up of things needful for his existence, rather than stimulating to his cravings. Necessity is the gauge of evolution, and obedience to its mandates the inevitable condition for all health, power and usefulness.

CHAPTER III.

THE SCIENTIFIC REASONS FOR AND AGAINST THE MIXTURES OF DIFFERENT CEREALS

“What God hath united shall men not separate,” with its logical implication: what God hath separated shall men not join together—are statements as true when applied to natural relations, as to social and domestic ones. There is a positive relation between the human body—its needs and necessities—and the entities of environmental nature, growing around us. Hence each grain of a certain class of cereals differs in elemental composition from the grains of any other cereal. The oat has a molecular arrangement and atomic constitution altogether different from the barley; and the rye and wheat are grains with physiological peculiarities all their own. In our official composition-tables, standardized by the various foreign or domestic laboratories, we find only the gross constituents of grain values, while their vital-magnetic forces are ignored. And yet every grain is a radio active agent—a fullorbed, complete, magnetic entity, charged with powers and qualities, definitely related to specific needs of the human constitution.

They enter the system as carriers of specific functional values, and engage the fluids and ferments of the digestive and nutritional system in accord with their own vital-magnetic charge.

A combination of different grains at the same meal must therefore result in a disturbance of digestive and nutritional harmony, and consequently fail to accomplish the result in health and power which the digestion of grains of a single species would have accomplished. Being differently polarized, the grains of the different species enter the system along different lines of vibrations and give rise to different responses of the digestive functions. This means a confusion of the entire assimilative and nutritional process, involving the integrity of every single cell of the system in the effort of the latter to accommodate for the different key-notes of vibration.

Hence if the oat, with its peculiar magnetic verility, is chemically and physiologically combined with the constitutionally antagonistic elements contained in the congestive wheat, combustive corn or sedative rye, the ensuing neutralization of the different, opposing elements will naturally give rise to disturbances in the systemic nutrition in its effort to specialize the secretions of the digestive ferments, required to meet the heterogeneous demands of the incompatible grain mixtures.

Each different grain is a biologic symphony, containing in harmonic completeness the elements representative of certain physiological powers. Hence the mixture of different species of cereals will produce the same disturbance in the digestion and nutrition of the human body as the simultaneous performance of an oration with its slow, measured rhythm, and a sonata with its quick, flowing rhythm and soft, melting accords. Applied to the processes of nutrition such discords, in the elemental fitness of foodstuffs, result in imperfect nutrition and failing health.

From this it is readily seen why the different bread-combinations of cornmeal, graham, rye, oats, flaxseed, etc., so far from being of any benefit to the system, become embarrassing obstructions in the rhythmic order of its functional exchanges. One kind of grain at a time, whether separate or in combinations, is the only safe and sane diet. Simplicity is ever the supreme factor and gauge of evolution; and to fall in line with its purpose—simplicity and unity—is to be borne, with unfailing surety, on the sweep of rhythmic power toward health, un-aging youth and tireless usefulness.

CHAPTER IV.

WHAT FOOD TO BE COOKED, AND WHAT NOT TO BE COOKED, TO INSURE THE BEST ASSIMILATION AND NUTRITION

While in most cases cooking means a devitalization of the nutritional elements of the food, and may even seriously impair their digestibility, yet the devotees of raw or "un-fired" diet should not ignore the other fact, that in case of functional weakness, an individual, to restore his enfeebled digestion, may need the very change of physiological chemistry which the cooking of food brings about.

In order to insure the greatest nutritional results, we must take into consideration not only the laws and characteristics inherent in the foodstuff itself, but likewise the constitutional efficacy of the digestive powers of the individual. The motive back of diet should not consist in a mere catering to a person's taste and cravings, but rather in an effort to raise his digestive and assimilative powers to stages of highest efficiency, taking into account both the nature of the food itself and

the physiological reaction involved in the digestive process.

There are reasons for believing that to the majority of mankind the digestibility of certain foodstuffs are improved by cooking. To this class of foods belong starch. Exposed to a certain excess of heat, the cellulose, enveloping the starch-cells, swells and bursts open, rendering its contents accessible to the ptyalin ferment of the salivary and intestinal secretions. From this it follows that as an article of diet, any foodstuff highly charged with starch is improved by cooking. Thus rice, with its 85 per cent; rye, 71 per cent; wheat, 70 per cent; oats 67 per cent, and most of the grains and pulses, which are highly charged with starch, derive their available nutritional value from an excessive exposure to heat.

On the other hand, such foodstuffs as are rich in albuminous elements require an altogether different treatment, and may even be rendered detrimental through cooking, as the very heat which opens the starch-cell to induce the action of the digestive ferments, is found to close the albuminous cell, through the process of coagulation,—a condition by which the food becomes utterly impervious to the action of digestion. Hence the advisability of serving such highly albuminous substances as eggs, milk, and most of the leaf vegetables—especially celery—in their raw, unprepared state.

CHAPTER V.

THE PROCESS OF DIGESTION—AN ELECTRIC PHENOMENON

The conclusion to which the more advanced students of modern physiology have arrived, seems to point to digestion as an electric process. Thus Prof. Jaques Loeb, of the John Rockefeller University, Chicago, has recently published statements, based on painstaking laboratory experiments, referring to the processes of osmosis, in the animal and vegetable metabolism, as phases of electrolysis.

It has thus been found that digestion is an electric process in which the positive energy of the ingested vegetable cell is polarized into animal tissue when brought in touch with the negatively charged cells of the body. The foodstuffs are mere carriers or electrodes for the transfer of vital-magnetic energies, similar to the process that goes on between the oxygenated (positive-polarized) red blood corpuscles in the arterial circulation, and the carbonized (negative-polarized) muscle-tissue. The neutralization of the elemental affinity existing between the oxygenated "ion" of the atmospheric air, and the carbonized "ion" of the

animal tissues, constitutes the process by which the living organism is relieved from its effete, decomposed waste material.

Hence, digestion, to be at all scientifically understood, must be studied in the light of the electric phenomenon of polar-affinity with its triple progression of attraction, satisfaction, repulsion. If the digestion and assimilation of food were to be regarded as simple phases in the determinable progression of physiological chemistry, and solely depending on the systemic circulation for its absorption and transposition into the various phases of organic and functional energy, the general strength and vigor experienced immediately after eating would not be scientifically possible. For the food enjoyed today is not absorbed, assimilated, oxygenated and rendered available as nervous energy before the day following. On the other hand, if digestion is an electric process, the first contact between the positive polarized food elements and the negative polarized gastric cells, would give the signal for a discharge of innumerable, invisible, magnetic batteries, diffusing lightning-waves of liberated, vital energy to every physiological center of the body.

Digestion being an electric process, hunger stands for the phenomenon of unsatisfied affinity, arising in the gastric and somatic cells for elements needed by the system. In other words, hunger is the electric tension arising

from the affinity which an exhausted cell experiences towards a replenishment of its constitutional needs. And this hunger, of course, takes the character of specialized appetite for those very elements of foods, from which the system suffers exhausture.

In the preparation of our food, this play of electric polarity at work in the process of digestion becomes extremely significant. The plant, exposed to the sun, in the course of its growth, becomes charged with the warmth, light and energy of the great life-giver, while at the same time its roots absorb the potentialities of the earth in the form of its indispensable vegetable salts.

Now if digestion is a play of electric polarities between the vegetable cell of the food, and the cell of human nutrition, it follows that the freedom of the cellular affinities, and complementness of their interchange, depend on the normal condition of the involved elemental agencies. Hence any interference with the natural groupings and valencies of the molecules, either in the cells of the body or the cells of the vegetable substances, retards or even arrests the normal progression of the chain of electric-vital explosions which we appreciate in terms of digestion and assimilation.

From a standpoint of nutrition the process of cookery must therefore exert a devitalizing influence over the food, as nothing has such power to change the constitutional arrange-

ment of the molecules in organic substances as a high degree of heat. In cookery, the vital force and quality of the foodstuff is toned down to lower and lower levels of depolarizations, which means that the cells of the human metabolism, in order to absorb the food, must be toned down to a corresponding low degree of polarity.

And it is here we find an explanation of the more or less marked digestive disturbance occurring when raw and cooked food are consumed at the same time. For as digestion depends on a synchronism in the ratio of vibration between the cells of nutrition and the cells of the ingested material, it follows that the presence in the stomach simultaneously of raw and cooked foodstuffs causes a continuous interruption of the electro-vital exchanges, which inevitably must lead to confusions in the gastric secretions, delay of digestion, and a gradual tendency to decomposition of the gastric contents with subsequent dyspepsia and systemic malnutrition.

Physiologically considered, the only legitimate plea for the cooking of food would thus be found in an abnormal condition of the stomach, with its digestive secretions too feeble to deal successfully with the highly potentialized elements of the cell-structure of raw food. To secure digestive response in such a stomach means to institute a devitalization of the foodstuff—the reduction of the potency of the lat-

ter to levels on par with the vital resources of the digestion itself.

Hence, cooking stands for a means of vital expediency—a curative process, by which a deranged and diseased stomach may regain its power of normal digestion. As a rule for practical cookery, however, it is always safe to limit cooking to the more starchy vegetables, such as potatoes, cauliflower, beans, peas, pumpkins, etc.—in a word, the tubers and legumes—and always permit the leafy and albuminous vegetables, as lettuce, celery, young green onions, tomatoes, to remain raw. And with regard to fruit, only in the case of devitalized digestion, or in places where fresh fruit is inaccessible, should cooking and preservation at all be instituted.

CHAPTER VI.

MIXTURE OF FRUIT AND VEGETABLES— ITS EFFECT ON DIGESTION

What we term the “kingdoms of nature” are divided and subdivided into territories, each one representing laws and principles of internal regulation, all its own. Thus from the standpoint of alimentation, there is as wide a hiatus between the fruit and vegetable as between the vegetable and the mineral. The acid of the fruit, and the starch of the vegetable, call forth fundamentally different reactions in the digestive secretions. The presence of acid fruit in the mouth has been observed to stop the flow of the salivary secretions, which directly and indispensably are connected with the digestion of the starches. Shut off from the digestive action of the salivary glands, the starch in its still non-dextrinated state, is ushered down into the stomach where no provision is made for its digestion, and consequently has to remain unacted upon, until at the close of the digestive labors in the stomach when the non-digested, bacteria-invaded, putrifying mass is permitted passage through

the pyloric sphincter into the duodenum and small intestine.

A similar failure awaits the mixture of fruit with proteid-bearing foodstuffs, such as meats, bread and cereal dishes. For as the latter have their main and appropriate digestion in the stomach, while the fruit has its field of digestion in the small intestine, the introduction of fruit into the stomach, at the time the latter is engaged in the digestion of proteids, means a precipitation in the midst of digestive labors of an element intractable to the gastric secretions, and yet prevented from escape through the eventual closure of the irritated pyloric sphincter—the latter being the gastric gateway to the intestinal canal. The consequences, though susceptible to modification by a yet powerful digestion, always tend toward the same ultimate issue; disruption of the gastric labors, with a conversion of digestion and peptonization into processes of decomposition and fermentation.

But even when taken alone, and unmixed with other foodstuffs, fruit may at times be dangerous to certain constitutions. For as diet has its basis in constitutional affinities, the condition determining the safety or non-safety of a fruit-diet, lies in the predominance in an individual of electric or magnetic polarities, back of which will be found the deeper affinities at work in the mind. The characteristics attending electrically polarized people

are manifested in irritability, nervous tension, high-strung susceptibility, strenuousness, etc., in their general personal life. And as uncooked fruit comes under the electric category, the electrically surcharged individual must be careful of its indulgence. The clinical features attending poisoning from fruit-acids manifest in vertigo, headache, muscular soreness in the back, neck and shoulders, which in acute cases may even rise to symptoms of neuritis and neuralgia. On the other hand, as vegetables, in their general constitution, and especially in their cooked form, are magnetic, and their polarity consequently negative, they are more in line with dietetic needs of electrically polarized people.

Fruit and vegetables, hydro-carbons and carbo-hydrates, stand to each other as two opposing, yet complementary, divisions of equally valuable, equally indispensable forms of food. The former predominates in acids and sugars, the latter in starches; the former are centers of polarizations for the positive aspect of evolutionary forces, the latter for negative forces; the former are electric in their relation to life and growth—the latter are magnetic.

Hence the fruit and vegetable are separated by an entire cycle of evolutionary unfoldment, with no direct physiological or biological chain of connection. The fruit is born, nourished and matured in the air, bathed in the electric currents of sunlight and oxygen—

a center of nutritional life, brought into form and substance through the action and reaction of molecular movements. It is the incarnation of a fairy carnival of sunbeams and electric "ions," caught on the wing and fixed into spheroid moulds of energy through the crystalizing influence of the minerals of the earth, transmitted along the cambium layers of the root, trunk and branches.

It is through these channels that the fruit receives its supporting framework and protective covering. Welling up from within, from the central fountain of life, a ceaseless stream of electric potencies are thus constantly crystalizing into form and substance, and directed by the mystic agencies of the blossom, bud and fruit.

But if the fruit is an electric zone of vital polarization, organized into units of concrete substance, the vegetable holds a position the very opposite. For while the fruit through its full-orbed form expresses a completeness of structure, subtlety of poise and high-tensioned, trigger-balanced organization, ever ready to break up its molecular combination under the pressure of disturbing environments—so on the other hand, the vegetable, by the very angularity and elongation of form, indicates the basis of its composition, and subsequent steadiness and endurance over against adverse environments. Its tendency is molecular-ward—toward preservation and fixity of

substance and structure. Again as fruit to its character is oxy-hydrogenous, and predominantly acidic in quality, so the vegetable is carbon-nitrogenous, with fats, starches and salts as its constitutional output. Or lastly, fruit, from its very nature and position is electric, while the vegetable is magnetic.

From this it follows that there are numerous and positive conditions that make a mixture of fruit and vegetables inadvisable at the same meal for those who eat to live and are desirous of a healthy, useful life. Owing to its electric quality the fruit is rapidly disorganized, and shows tendency to decomposition in consequence of the slightest bruise or injury to its surface; while a vegetable can for a long time resist the dissolving influence of hostile environments. This fundamental dissimilarity in their constitutional equipment, results in quite a different power of reaction to the gastric and intestinal secretions and causes a vast difference in the time required for their respective digestion. Hence the average fruit requires only one hour, or one hour and twenty minutes for digestion, the cooked vegetable requires from two to three hours, which means that to the extent they are ingested simultaneously, they are intercepting the normal cycle of their digestion. Suspended in the stomach or intestine in a temperature of 97° farh., the fruit with its sensitive nature, will complete its digestive cycle before the vegeta-

ble is half through, which again must give rise to a series of disorderly processes to break in and interrupt the normal chain of digestive progression. The rapid disintegration of the fruit renders its lapse into fermentation inevitable, followed by the infection of the entire gastric contents. Sour stomach, belching of gas, vertigo, etc., testify to the collapse of digestion into fermentation, and nutrition into auto-intoxication.

These grave changes in many cases, however, may proceed without giving rise to any annoyance, or even knowledge, of the individual, as to the subversion of his digestive labors. According to his immediate sensation the food agrees with him. The constitutional power of his nature, and the vital reserve force—ever at his disposal—gives him a temporary supply of life, that for a longer or shorter period of time enables the defence work of his system to triumph over the difficulty, and neutralizes the destructive changes, or to postpone their manifestation until a systemic breakdown or premature old age foreshortens his life cycle. Premature breakdown, feeble old age at sixty, tumors, cancers, diseases at the time of the climacteric, etc., are due to a reckless and wanton wastefulness of our vital forces in the struggle to defy and subdue the enemies of our own household, introduced into our life by our own careless and gluttonous living.

CHAPTER VII.

SOUPS

It is indeed tragi-comical that the three elements considered as the most important features of a dinner—the soup, the gravy and the pastry—are exactly those which are not only without nutritional value to the system, but—in tragic seriousness—have done as much towards the breakdown of man's functional powers and structural integrity, as whisky and beer. Only in the latter case, however, the destruction is more acute and spectacular, and involves, in addition to self-destruction, the moral and social fates of other lives.

In its very nature the soup is an extract, and as such contains the disorganized fragments of ruptured foodstuffs. Being an extract of meat, the soup contains only those elements which are subject to solution, viz: uric acid, fatty acids, nitrates and ammonia—elements that have their main value in the stimulating, hence toxic, effect they exert upon the involved tissues.

All stimulation, if not derived from food and actual nourishment, is toxic. And as soup, as

generally served in restaurants and public eating-houses, on scientific analysis, yields hardly two per cent albuminous or muscle-producing substance, it follows that the systemic stimulation accredited to soup, comes from its toxic, not from its nutritional character. Having recognized the presence of poison in the system, nature makes a grand charge to effect its removal—a charge, which by virtue of the very rush of life it involves: the constitutional stirring up and liberation of vital energy to execute a neutralization, isolation and elimination of the poisons from the system—must give rise to a sudden though short-circuited sensation of power. The generation of this power, however, and the associate secretion of “defensive fluids,” by which nature wields a remedy to protect the individual from his own poisonous output, is furnished at great cost through the internal secretions of the central nervous and ductless glandular system. These secretions, called out and necessitated by a purely wanton indulgence, constitute a positive leakage of life, and not being demanded by any aspect of individual constructive usefulness, receives no sanction or recompensation by nature in terms of spontaneous, vital reaction. The entire process simply stands for a reckless dissipation of high-tensioned, vital force-currents, the original purpose of which is to serve as nervous reserve deposits for emergencies, that may arise from the advance

of years, when the physiologic exchanges of the system have lost their native power of resiliency.

In the daily routine of his life, the individual actuates in living reality the idea, portrayed in Honore de Balzac's weird but profound philosophical novel, "The Magic Skin." Suspended on the wall over the bed of its fated owner, the size of this skin shrunk in proportion to the extent the latter indulged in acts of excess and dissipation. As the hand of a time-piece follows the passing moments of time, so the shrinking of the skin followed with relentless precision the moral vicissitudes of this man's career;—the swifter the currents of his pleasures, the more appalling the shrinking of the skin; while on the other hand, restraint and self-possession would bring this inescapable mystic accountant to an immovable repose. But as the moments of self-restraint were few, and the moments of self-indulgence many, the tragic end was not slow in approaching. During a wild journey with the gilded youth of the country, when in his efforts to forget his fate, he plunged deep into nocturnal orgies, the distracted young man one morning was found dead in his room. That very moment the magic skin had shrunk into its last perceptible size—it had disappeared.

Every individual has at his disposal a certain number of heartbeats, to be distributed in

rhythmic order over the entire field of his life, and depending on his own decision whether to be used up in breadth or in length. Hence any indulgence, which may unduly hasten the cyclic momentum of the heart, foreshortens to that extent the entire cycle of the individual. The quiet liver—the individual, who avoids excitement and stimulating indulgences in his daily routine—the country parson or country school teacher of old—will live long and full, and retain his vigor and usefulness to the unabridged physiological end of his healthful, useful and peaceful existence.

Stimulation, however, is only one of the objectionable features of the soup. Prepared in most cases from a stock of meat, its entire contents are enveloped or encapsulated in a cover of grease. As its field of digestion, however, is not in the stomach, the presence of the greasy compound in the latter, constitutes a decided menace to its digestion, defying every effort of the gastric juices to reduce it condition, the grease adheres to the walls of ~~condition, the grease adheres to the walls of~~ the stomach, and thus by sealing up the secretive glands prevents, or at least largely interferes with, the digestion of other foodstuffs. Hence the same principle that renders fried foodstuffs indigestible is also applicable to the fat soup, in which the proteid and starch molecule, encapsulated by the grease, is isolated from the action of the gastric juices. It

is only after the soup has found its way out of the stomach into the intestinal canal, that the fat, under the action of the secretion of the liver and pancreas, is dissolved, and the proteid molecule at last set free. But as the intestine is not the field for the proteid digestion, and the gastric secretions are no longer available, it is readily seen, that the loss to the system does not only consist in the weakening influence of the protracted, though futile, effort of the gastric chemistry to digest the grease, but also in the ultimate waste of the food itself.

But the indictment of the soup does not stop even here. We have found it to be a poisonous extract, and an indigestible fat—yet there is a third objection to its use: being a fluid it weakens the gastric secretions. For the gastric juice possesses by its very nature the normal and adequate admixture of Hydrochloric acid and Pepsin, and any additional dilution in the form of soup or beverage in general, weakens to that extent its power of cutting and emulsifying the ingested proteids. Except in cases where the Hydro-chloric acid is too strong—which, however, must first be analytically ascertained—any drinking or ingestion of fluids at meals, decreases the percentage of digestive capacity, and induces waste, both of labor and material. The animal soup, used at the beginning of a meal as an

appetizer, is irredeemably bad and should be left out of every sensible bill of fare.

There is a type of soup, however, which is admissible in a sanitary system of diet: the vegetable puree—the strained decoction of a few thoroughly boiled vegetables, such as onions, carrots, parsley, peas, thymes, with a stock of rice or pearl barley. Such a soup, enjoyed with a couple of whole-wheat zwi-bach, would constitute a meal in itself, as its great percentage of solids would stimulate salivary secretion and comply with all the requirements of an ordinary meal.

CHAPTER VIII.

GRAVIES

Compared with the ravages that digestion is subjected to by the use of the brown gravy, most soups are quite innocent. Every detrimental feature of the soup is present in the gravy—only in accentuated degree. To the extent the gravy is rich, it is indigestible. Starches, carbons, proteids and fats are all present in the gravy, and by the inevitable browning or frying process, are thoroughly encapsulated and rendered impervious to the gastric secretions, involving inestimable losses of labor and waste throughout all the fields of salivary, gastric and intestinal digestion and assimilation.

In the preparataion of gravy an alkaloid substance is formed, due to the exposure of the mass to the scorching heat of the frying-pan. The brown color thus imparted to the mixture is the produce of a most dangerous alkaloidal substance, containing a chemical compound of fatty acid and carbon which is not only indigestible, but acts on the trophic cell-structure with the virility of a toxin. Especially is this carbonized fatty acid

destructive of the epithelial linings of the glomerules and tubings of the kidneys.

In the majority of cases, however, the blame for this breakdown is not laid at the door of the gravy, but of the meat. Meat, like charity, is made to cover a multitude of sins. Often under the influence of vegetarianism, meat is dropped, while the gravy is retained—a procedure which is not only a blunder, but a serious violation of physiological laws. It is the soup and the gravy that renders the meat dinner harmful, not the meat itself. The latter, if enjoyed in moderation, two or three times a week, or in accordance with individual needs, has often in cases of systemic nervousness and catarrh, proved to be a great remedial agent. But to derive the full benefit of the meat, its usual and time-honored combination with bread should be substituted by spinach or boiled onions. Any additional mixture in the form of dessert, creams, nuts, sweets, etc., means the perversion of the entire meal into forms of decomposition and malnutrition.

CHAPTER IX.

PASTRY

This brings us to the third ingredient in our group of stomach destroyers—the pastry. So perverted has the jaded sense of taste become in the course of a misdirected diet, that a dinner not accompanied and rounded out by some kind of dessert is regarded as an utter epicurean failure. The reputation of a restaurant is often sustained more by virtue of its success in pastry, than in meats, bread and vegetables. Yet it is through the latter that the system receives its supply of muscle, heat and energy—not through the pastry, which has no other purpose or power than to serve as a stimulant of the gustatory glands and taste-buds, and to coerce the fagging functions of salivation and digestion into a last supreme effort to respond to a new charge.

Sifted down to its primary elements, sugar, grease, egg, starch and butter, with the additional, complimentary flavors of arsenic—or anilin-dyed extracts—the pastry holds the distinction of having brought into a grand food-perverting climax every ingredient that may give rise to gastric and intestinal disaster.

For in this classic mixture—sugar, grease, butter, eggs and starch—the art, or rather black art, of cookery has achieved its most inglorious success as a wrecker of human digestion. The taste of this mixture would undoubtedly in itself be repulsive to the discriminating power of a natural sensation were it not for the tragic fact that the constant maltreatment of the taste-buds has dulled their native sensitiveness to the value of natural flavors. The clean, wholesome, refreshing flavors of the grain, fruit and vegetable, have no longer any power to rouse the overstimulated and perverted taste glands. Through a long exposure to concentrated and un-natural flavors the function of taste has developed into a new and altogether pathological sensation—a sensation unreliable as guide, irresponsive to nature, and fatal to life.

Whenever a mixture of sugar, grease and starch is exposed to heat in the form of frying or baking—necessary for the production of the brown, greasy crust which forms the outer covering or skeleton framework for the pies and puddings of professional cookery—a dangerous alkaloid is generated, which, in connection with the inevitable fatty acids, arising from the mixture, proceeds to form impenetrable deposits in the mucous mucosa of the intestines and of the dialyzing membrane in the tissues of absorption, thus preventing the vascular drainage and nutritional exchanges be-

tween the blood-stream and the lymph-spaces—followed by the unavoidable consequence of membranous catarrh and of congestion in the various absorbent tissues.

Particularly inimical is this alkaloid substance to the epithelial covering of the glomerules of the kidneys, and constitutes one of the prominent causes leading up to Bright's Disease. The dead-lock to the proteid molecule, rendering it intractable to the gastric secretion by its incapsulation in the grease, throws a severe burden on the liver and pancreas—the two glands on which devolves the task of bursting open the fat-capsule. The whole constitution suffers from the worthless indulgence, by which is caused an expense of general vitality to the system, far out-balancing the revenues derived from the digestion of the foodstuffs themselves. In the great majority of fashionable food preparations the major process of nutrition is a positive failure. We starve from innutrition in the midst of plenty. In place of bringing health and strength to the eater, such indulgences inject into the very cell-life of his system the death-poison of decomposition. It is in spite of such food that we exist—not because of it.

It is incredible to what extent the average individual disregards his health in relation to the food he permits to be passed into his stomach. The same man who with the greatest care selects the food for a canine prize-winner,

eats a bowl of restaurant soup, a fish-ball, a goulasch and a piece of pie or pudding, etc., without giving a moment's thought to the character or knowledge of the cook who prepared the mixture. The cook may be an ignorant, cigaret-smoking, beer-drinking, unclean individual, who has no more knowledge of the nature and needs of digestion and nutrition, of antagonisms of food-mixture and their chemical affinities to gastric secretions, etc., than a teamster has of the engineering of a trans-atlantic liner. Though in charge of such a tremendously important life-and-death involving office, as that of supplying our body with the nutritional elements on which we depend for our usefulness and social success, the cook knows of only two principles in relation to his food: stimulation of taste and temptation of appearance. To accomplish these two ends his boldness and unscrupulousness with regard to the laws of nature and the demands of health know of no bounds. The natural flavors of the grain, the fruit and the vegetable, so full of meaning and purpose, both to the moral and physical life of man, are ruthlessly masked to suit the overstimulated and perverted taste of the cook himself, and his conception of the taste of his patrons.

The work of seasoning the food for the purpose of stimulating the appetite of the eater, is not only wanton but dangerous. There is a definite relation between the needs

of the human system, on the one hand, and the sense of taste and appetite on the other. The natural, gentle taste of the foodstuffs is stimulating to the appetite only to the extent these foodstuffs fill the actual needs of perfect physiological life and usefulness. To increase this stimulation by the artificial pungency of seasoning, creates a demand, in excess of actual need, and causes accumulation of waste matter in the system, with all the consequences of functional decomposition and degeneracy.

The penal codes in the domain of nature may not always find their execution in the immediate punishment of the transgressor. Often there may be a long interval between cause and effect; between the violation of a law and its eventual recoil. Hence we often hear people, addicted to gluttony, boast of their powers of digestion, defying with seeming impunity, every rule and principle of diet. These people, however, are shortsighted. They have subverted, not converted, nature to their dietetic outrages. Hence their escapes are only temporary. The race of life does not commence before the age of sixty. At this age man feels his great change of life—his climactory—when suspended in the balance of life, his vital records are thrown into the scales with him. It will then be seen whether in the financing of his vital business of health and strength, he has laid up sufficient funds to

carry him through his critical period and lift him into the safety and triumph of graceful old age, and young feelings, or land him in the disgraceful delinquency of premature decline and dissolution.

CHAPTER X.

MEAT AS A FACTOR IN DIET

Meat as a factor in diet has its value or non-value in the condition and quantity in which it is consumed. It may be used as medicine, as stimulant and as food. Used in moderation, and without the usual disturbing admixtures, meat may even be a remedy for the very ailment which its excess or wrong combination has caused. Hence while an immoderate consumption of heat, or meat taken in connection with fat gravies, milk, pastry or fruit, by generating a series of toxic acids, such as carbonic, uric and oxy-acids, etc., will give rise to rheumatism; so on the other hand a moderate use of meat, rightly combined, or not combined at all, may succeed in neutralizing the effect of those very poisons mentioned, and thus affect a cure for rheumatism. What meat will do when enjoyed under true health conditions, is manifested in the boundless virility, agility and power of the lion and tiger; while on the other hand in the diseased, fermenting, rheumatic bundle of beast-hood so often represented by man, we have the effect of meat, when indulged promiscuously, and

in excess. For both aspects have in the human being a perfect representation: according to his understanding and self-control, he may convert meat, either into a valuable nourishment or into a source of poison.

As to the relation of the future man to the consumption of meat, we have every reason for the belief that as soon as the individual succeeds in growing harmonious to life and nature in other aspects, he will also grow harmonious and poised in regard to the consumption of meat. The pure, balanced, refined and healthy mind, other things being equal, will soon arrive at a state of bodily evolution when meat will no longer serve as a source or condition for health and power. The future of the earth undoubtedly belongs to the vegetarians.

On the other hand, there is no scientific value in the argument, so frequently used by our vegetarians, that because the monkey is a vegetarian—subsisting on nuts and fruits only—man, in his turn, as a supposed descendant of the monkey, must have his historical and biological basis in a vegetarian mode of living. The theory of a human origin in the pithicoid ape, however, is no longer taken seriously by advanced scientists. Ernest Haeckel as long as eight years ago, disproved the theory on a purely geological and paleontological basis. So far from man being a descendant of the monkey, it is the latter that has continued and continues to descend from a degenerate

branch of prehistoric man. Hence in place of the monkey setting an example for man in the system of diet, he merely demonstrates the correspondence between his individual needs, and the world's evolutionary development.

Historically and biologically considered, man springs from a carnivorous basis, working his way upwards, along lines of physical, mental and moral refinement, towards a state of existence, more or less remote, when meat shall no longer be needed as a condition or expediency for the attainment of health, strength and usefulness.

Generalizations, however, with regard to meat as a factor of construction or destruction in human evolution, are meaningless and useless. Races have been meat-eaters or vegetarians not in consequence of their biological or anthropological position, but in accordance with their physical, mental, moral and spiritual needs. The same evolutionary principle which demanded a meat-free diet for the mental needs, represented in the metaphysical abstractions of the Hindoo system of thought and living—and later demanded the beginning of a meat-diet with their fruits and vegetables, to sustain the more concretely poised and intellectually organized minds of the Greeks—manifested in an increasing need of meat to comply with the grosser, not only secular, but sensual development of the Roman mind and morals—a dietetic departure, which lastly in

the adventurous, materially and sensuously permeated life of the early Saxon, created a necessity for the grossest form of meat indulgence.

But out of this gross, animal-saturated mentality, with its corresponding brutish form of living, we are making progress into a new zone of consciousness, borne by a conception of higher moral and spiritual motives—the realization of which calls for a purer form of food. Hence our present interest in matters of diet with its manifest tendency towards elemental purity and refinement of food, has its basis and force in the general elevation of our civic and religious ideals, and the subsequent rise in the scale of our physical evolution.

This brings us to the practical aspect of meat as a factor in diet. For if it is admitted that the necessities for a certain system of food-element are due, directly or indirectly, to the position, disposition and indisposition of each individual, it follows that the character of his mind should be recognized as a very important factor in the selection of his diet. Hence to the extent a person possesses the mental refinement, moral poise and spiritual power of the ancient Greeks, his nature will be able to respond to the dietetic restrictions of those high-minded, frugal people; while if his constitution is animated by the uncouth force of the later Romans and the early Saxons, and

his ideals correspondingly gross, his dietetic reforms, to be safe and permanent, must be modified in accordance with these conditions.

Just as in the larger processes of life, evolution, to sustain its vital processes, must proceed without shock, so in matters of food, the individual should inaugurate his dietetic changes gradually, well informed and well prepared. His change of diet, to be permanent, must be preceded by a change of mind—as a vegetarian diet has very little value to the body as long as the mind is still reveling in carnivorous desires. Realizing, however, that meat, by its very state of being charged with animal magnetism, affects a modifying influence on an over-strung and too highly tensioned nervous system—it is readily seen why meat can be beneficial to one person and the very opposite to another. The stolid, submissive element, characteristic to the meat, with its constitutional tendency to subdue the mental strain of the super-nervous—if applied to the self-possessed, slow-moving and self-sufficient individual—will manifest as a dead weight, smothering into inertia his mental and moral activities.

By extending this argument to its logical limits we shall find three classes of eaters, which each in his line, holds claim to our unbiased consideration: those who are absorbed in the purely vegetative interests of an instinctive, uncultured nature-life—the coolies of all

times and ages;—those who have reached a stage of abstract development in the course of a moral and spiritual evolution, when their system has passed out of the needs and necessities of meat;—and those who are engaged in the great intermediary zone of existence, seriously aspiring to the abstract heights of ideal perfection, yet wrestling with the problems of an unredeemed but not unredeemable animal-human nature.

Thus adjusting himself to the needs of his nature—indulging or not indulging in meat as the exigencies of his environments and temperament may determine, while unceasingly aiming at health and usefulness as the guiding and impelling motives for his diet, the individual will safely and unfailingly advance toward the ideal of perfection, and sooner or later find the attitude, conducive to his safest and truest evolution. This may exclude or include meat as a factor in diet—not by chance or guesswork, but by a rigid, scientific observation with regard to subjective and objective facts as determining elements in the needs of human nature.

CHAPTER XI.

SUGAR—A FRIEND OR FOE TO HUMAN LIFE?

Sugar has a deeper bearing on human dietetics than most people realize. It holds the position of the traditional two-edged sword of Eden, suspended over the gateway to the field of moral evolution. It constitutes the acid test of human self-control—an ever-present tempter to laxity of moral fibre in forms of self-indulgence.

The very presence in commerce of extracted sugar demonstrates at once that a violation of the laws of nature has taken place, and that a dietetic non-descript has been let loose in the world. Being an article of isolation and reduction, the very production of sugar means that nature has been compelled to surrender her balance of power and dignity of purpose, to serve the interests of an overstimulated, overfed organism.

The relation of the creature to the Creator, and of man to nature, is expressed in harmony, co-operation and reciprocity. Every form of life and growth in nature has a definite, self-

explanatory meaning, and occupies well-defined zones of usefulness and necessity. The fruit, the grain, the vegetable are complete entities, well-balanced compounds, containing in the easiest digestible and assimilative form, the elements needed for the strongest expression of a given type of life. In the evolution of nature a creative or constructive chemistry is at work, in which the needs of life are so minutely and intelligently recognized, that every detail in its composition refers to positive needs and necessities of the various organisms.

From this it follows that a disturbance of the integrity of these harmonious compounds in the form of extraction, concentration, separation, conglomeration, etc., by and through which the original character of the compound is lost, is a violation of physiological laws, that will result in a rupture between man and nature, and in the prevention of the former of getting the full benefit of the poised and measured balance of elements held suspended as unit-power in the vegetable form.

The loss to life and personality involved in this vital alienation, between man and nature, can never be adequately realized. For it is not only a loss of the elements removed in and by the process of extraction, but as a result of the latter, the evolution of alien, microscopic entities—organized ferments which, in the form of parasites, proceed to attack and devitalize

the organism in which they find a lodgement. The extract, which in a greater degree than any other, attacks and usurps the human organism, is the extract of sugar.

Sugar as an extract is a form of decomposition brought into existence by means of a breaking up of the substance in which it was physiologically, biologically and constitutionally contained. The valuable, life-sustaining properties of sodium, potassium, magnesium contained in the beet, the fruit and the sugar cane, are practically lost in the sugar; while the oxygen represented in the 44 per cent of water in the natural combination, is entirely lost in the extract. The following comparison between the natural and the artificial forms of sugar will readily show the dangerous character of the latter when used in the preparation of our food:

	Natural Sugar Per Cent.	Artificial Sugar Per Cent.
Potassium	30.19	28.79
Sodium	10.42	2.89
Calcium carb	2.60	10.93
Magnesium	4.71	1.16
Iron	3.23	1.68
Sulphur	4.85	4.69
Water	44.10	0.00

The result of the conversion, or rather subversion, of the natural sugar into artificial sugar is readily surmised. The sugar, entering the system in the ruptured, devitalized condi-

tion, is trembling under the raging affinity, for the elements from which it has artificially been separated. And as these elements are present in the gastric secretions, it follows that the stomach will become the field of action for a most important chemical affinity by which the sugar will complete and replenish its own deficiencies at the expense of the digestive secretions. As the carbon in the sugar proceeds to extract the oxygen held in the gastric juice, the latter by the loss of this sustaining and balancing element, breaks down into decomposition with the subsequent evolution of carbonic acid gas, ammonia, oxy-bacterial acid, etc.,—the output, of course, depending for its type and character on the nature of the food present in the stomach and involved in the decomposition. The destiny of the food after having entered the stomach has only two possibilities: digestion or decomposition. And whenever the normal consistency of the gastric juice has been interfered with, whenever the artificial sweets of extracts, mixed in the foods are chemically combining with the oxygen in the hydro-chloric acid of the stomach secretions, an orderly digestion is impossible. The gastric juice, failing to dissolve and peptonize the ingested foodstuffs, cannot prevent the fermentation and decomposition of the latter or defend the digestive field from being swamped by the bacterial invasion following in the wake of the digestive breakdown.

“Free”—i. e., extracted or concentrated—sugar, cannot be indulged in without incurring a penalty in the loss of strength and vitality to the system, though the harm may not be directly noticeable. For diseases are cumulative, and grow under the false truce of silence and quietude. Physiological, like elemental storms, are generated under a clear firmament, and manifest first after every element is adjusted and charged for the outbreak. Temporary escape—though it may serve as an argument for the short-sighted, and an encouragement for the weak—is a mere makeshift of systemic resistance, which to the very last exerts a native effort to survive, against overpowering odds of dietetic transgressions.

Nor is the ever-present craving for sweets a sign for its legitimacy to be enjoyed,—though we may often hear the arguments that whatever the system craves, is normal and necessary for its sustenance. The craving for the extracted form of sugar, however, arises from the very fermentation which its presence in the stomach brings about. For the process of fermentation gives rise to the stimulation and flush of energy of the system coupled with the intoxication of the nerves through the generation of alcohol, and the subsequent rush of nervous power caused by the sudden demands on the general system for assistance to subdue the gastric upheaval. This rush of vital energy from the central nervous system to the field

of digestion, gives the sensation of great physical power, though in reality, the entire process spells profound exhaustion and loss to every cell or nerve center involved.

Thus, normal strength is generated unconsciously and unnoticed in those undefiled laboratories of the vegetable life—the cells of nutrition—and reaches self-consciousness and individual recognition only under the form of health, endurance and poise. Hence, any form of stimulation to the system is a vital expense, like a draft on a bank account, which in order to be safe, and physiologically legitimate, must be sustained by energy-bearing elements. Indeed the very strength we feel from a stimulant should warn us from its continuance, unless the stimulation is derived from natural energy-producing sources, viz: food, air and water.

Now as to sugar, its stimulating power and inherent seductiveness, has its genesis in the very devitalization and impoverishment of the substance itself. Being a mere extract, the sugar is to its real nature a disrupted, devitalized substance, in which oxygen, as already seen, is almost entirely removed. Hence, its entrance into the human organism is that of a thing of prey and plunder—raging and hungering for the elements of which it has been robbed; and as oxygen is especially among the missing properties, its affinity for this extremely important element is irresistible. In

other words, sugar absorbs oxygen in the gastric and intestinal secretions, as a sponge sucks up water—persuing it with the insatiable drain of affinity throughout the entire field of oxygenation. Similar attacks are waged on the other elements of nutrition, such as potassium, sodium, etc., on which the sugar has suffered a loss, leading to the metabolic climax when digestion is perverted into fermentation, and assimilation into decomposition.

It is thus readily seen how the appetite or craving for extracted sweets found its controlling influence over the taste. It drains with a resistless suction every cell of the system, for oxygen and other elements, which are demanded by the digestion to replenish the losses suffered by the gastric and intestinal tissues and secretions through the ravages of fermentation and decomposition. Yet this is not all. If the sugar is consumed in connection with food, the inevitable fermentation of the latter gives rise to the evolution of alcohol and other toxins, the action of which takes effect on the nerves in the exhilaration of the senses known as intoxication—followed by the same vital exhausture and subsequent urge for renewed stimulation. Hence candy-eating is practically a subjective and disguised form of alcoholic inebriety, which in some way or other, leads up to a similar ultimate collapse of physiological and mental power.

The stimulus thus imparted to the gastric enervations reacts in demands of the latter which are utterly false and unreliable. The rush of systemic energy, sweeping through the secretory cells, may induce a sense of hunger, even at the time when the stomach is overcharged with food. Hence the readiness of the stomach, even at the breaking point of surfeit, to accommodate for the long chain of dishes of which the conventional dinner is made up—an accommodation that spells future ruin to the entire system.

In dietetic strictness, the relish of sugar is physiologically legitimate in one form only—the form which nature has rounded out and completed in harmonious fullness of taste, health and digestibility: the fruit. It is in this form that we can enjoy every prompting of taste and relish, without incurring the penalty of a reaction of suffering. But even here we are held under the limitation of inviolable conditions: fruit must be enjoyed perfectly ripe and uncombined with any other food. It is the aristocrat of diet and suffers no rivalry or partnership in its occupancy of the digestive tract. Hence the safest time of the day to enjoy fruit is about two hours before a meal. In the ordinary routine of meals, this would be at 10 a.m. and 4 p.m.

On the other hand there are exigencies and conditions when fruit may be artificially sweetened. So, for instance, in the employ-

ment of sugar in the preservation or seasoning of fruit, we have a logical and hygienic basis in the fact that sugar is a natural ingredient in fruit, being one of its main and indispensable elements. With perhaps the exception of the lemon, all full-grown and perfectly ripe fruits are sweet and congenial, both to the palate and to the gastric juice. When, however, the fruit has had an incomplete ripening owing to insufficient exposure to the sun, or to an excess of humidity in the air and soil, etc., or perhaps in a premature picking, its acidity has had neither the time nor the conditions to accomplish its evolution into a natural sweetness. To avoid the corrosion which this unmodified acidity may have upon the lining of a sensitive stomach and intestines, it may, by way of expediency, be advisable to artificially increase the sugar percentage of the fruit, preferably by the aid of cooking. This sweetening of the fruit tends to balance up its deficiency of sugar, and thus by a neutralization of its acidity, bring about an arbitrary, though under the circumstances, hygienically defensible ripening. This expediency, of course, would only be advisable in the absence of ripe fruit, or—as in the northern climes—in the absence of fresh fruit at all.

But when this sweetening process is extended to foodstuffs whose composition, complete in itself, makes no constitutional demand for an increased percentage of sweets, as in

the case of vegetables and cereals, and in the various forms of mushes and pastry, etc., the matter of adding free sugar to the food takes on altogether different aspects. In this case the science of nutrition cannot present a single logical argument in its favor. To add sugar to the mush or breadstuffs in any form, is contrary to the constitutional needs of the starch, and can never amalgamate with its starchy material. Hence such a mixture can only amount to a mechanical, not a chemical or vital association; and when the foodstuff enters the stomach and comes in touch with the gastric secretions, where the oxygen, iron and vegetable salts, presenting a greater affinity for the sugar, cause the latter to desert the starch, to enter into a combination with the gastric secretions and its tissues. This, of course, gives rise to the usual fermentation and decomposition of the food-material, with all its incidents of systemic poisoning.

A last objection to the consumption of sugar in connection with starch or proteids, lies in the fact that its digestion proceeds at a far quicker rate than that of the proteids, and consequently leaves these foodstuffs without the available gastric juice for their successful digestion.

CHAPTER XII.

MILK AS A FOOD, AND MILK AS A POISON

The employment of milk in the preparation of our food, means a great dietetic error. For milk, being in its very nature an antidote, tends to neutralize every foodstuff with which it is combined. Furthermore, as the digestion of milk is not so much the business of the stomach, but has its main field in the duodenum, where it depends upon the secretions of the liver for its emulsification,—the inference is that milk, to be solely and profitably enjoyed, demands an empty stomach and a powerful liver. In accordance with this fact the infant, whose food consists solely of milk, is equipped with a liver which, compared with that of an adult, holds the relation of 3 to 1—in size as in power—an equation which naturally means that a promiscuous use of milk in the diet of an adult is decidedly harmful to a weak or even ordinary liver.

It is because of this failure of the stomach to accomplish the digestion of milk, that the latter becomes an antidote in relation to any

other substance, simultaneously entering the stomach. For being unequal to the task of its digestion, the stomach in the presence of milk closes its labors and seals up its secretory glands. This accounts for the fact that an otherwise deadly potion of arsenic, or any other poison may be introduced into the stomach, suspended in one-half gallon of milk, and never assert its identity. Having closed its channels of secretion and absorption, the stomach is rendered immune to any graver physiological shock—a circumstance which provides ample time and opportunity for a safe removal of the poison from the system.

So far so good. But the same quality in milk which isolates the arsenic from acting on the stomach, also prevents the latter from digesting wholesome, nutritious foods. It places an impenetrable barrier between the protein substances and the secretory cells of the gastric digestion. This makes it doubly difficult for the digestion of foods like meat, eggs, butter, cheese, fish, beans, etc., in which the main constituents are proteids, and consequently depend on the stomach for their digestion. Hence to make milk a safe part of diet, even to the healthy stomach and liver, it must be taken distinct and separate from any other foodstuffs, and at a time when the stomach is empty.

The fact of milk being an antidote brings out its real value, or non-value, in relation to

cooking. Any form of milk-dressing, milk-gravy or milk-soup, lessens the digestibility and nourishment of the preparation to the extent it isolates itself from the action of the gastric juices. To a hyper-sensitive stomach—catarrhal or ulcerated—this very quality of milk mixture may, however, serve a good purpose, by subduing the digestive irritation of such strongly polarized vegetables as spinach, horse radish, parsnips, turnips and tomatoes. The advantage, however, can only be considered in the light of a palliative or expediency, as its ultimate influence over the system must lead to a progressive weakening of the digestive and assimilative functions. Every effort should be made to restore the stomach to its power of normal digestion.

CHAPTER XIII.

PROF. ELI METCHINOKOFF AND THE SOUR MILK BACILLUS

The milk preparation placed on the market in form of lactic tablets, yougurth, lactone, fermalac, etc., are all founded on the theory that the human organism is constitutionally imperfect and inadequate to maintain its own physiological integrity. To save the situation, however, science comes to the rescue with a system of serum therapy, which consists in the introduction into the human organism, either through hypodermal injections, inhalations, or by way of the mouth,—of microbial cultures prepared from substances, the corruption of which, in order to be effective, must be even more destructive than the corruptive processes at work in the body itself. In other words, the forces called upon for aid and protection, must be more sanguine and ferocious than the forces which are to be conquered: the poison of the injection must be more corrupt than the poison already active in the diseased system.

Now by its very readiness to yield a mi-

crobe culture, milk has always been selected as a means of generating the alien microbe when its importation into the organism had to go via the digestive field; and it is to Prof. Metchnikoff, in particular, that we are indebted for a more elaborate and detailed treatment of disease by these systematic, fermentative processes.

Having discovered a *bacillus putrificans coli* in the human bowel, which as a product of intestinal decomposition, is undoubtedly detrimental to human health, the famous French savant, in his attempt to affect its elimination, ignored the fact that this bacillus is not a genetic, constitutional output of human nature, but the abnormal product of abnormal living; abnormal food, and abnormal habits. Hence in place of instructing the patient how to live so as to prevent any further generation in his system of these parasites, Prof. Metchnikoff proceeds to generate a bacteria *de novo*, more destructive than the old, and by which he proposes to wage a general war of extermination against the putriferous bacillus of man's intestine. In place of so improving and fortifying human nature that she may victoriously fight her own battles, he displaces her by an alien, life-destroying agent, which forever barred from an amalgamation with the forces of legitimate, progressive, evolutionary growth, retains its position to the organism of an enemy of her household.

Prof. Metchnikoff holds the position of a general who, with his country in the throes of a civil war, invites the armed assistance of a foreign nation to subdue the domestic rebellion—later on, however, to realize that a still more formidable issue confronts him is his relation to the victorious invader who refuses to relinquish its grip over the subdued subjects. In either case there is a danger, that the conqueror will not forego his tempting opportunity for continued spoil and conquests.

This is exactly the attitude of the human organism after it has become inoculated by the *bacillus bulgaricus*, introduced into the world-pharmacopoeia by Prof. Metchnikoff in some artificial form of sour milk, such as yougurth, lactic tablets, fermalac, etc.,—or any of the recently developed fermenting, decomposing microbe cultures. Nothing is more remote from true health than the lethargic feeling of false peace which may follow the use of these preparations. The system has lost its power of resistance and submits readily to every pathologic change of its cell-life and general metabolism. Hence, the sensation of strength and flush of vitality which the microbe culture frequently gives rise to, is a mere surface reaction, and refers to the strength of the alien bacillus, rather than to the resilience of the subdued human organism, which fundamentally and constitutionally is growing weaker.

To give strength and plausibility to his

theory, Prof. Metchnikoff refers to the people of Bulgaria, whose universally renowned longevity he declares is due to their immoderate indulgence in sour milk. An investigation of the subject, however, has shown that as a matter of fact, the people of Bulgaria use very little sour milk in their diet. According to Dr. Gundurm—a royal health commissioner of Croatia—who has spent many years of study among the Bulgarian peasantry,—the cause of their long life is not in the indulgence in sour milk—not even “yougurth”—but in a dish called “tschessnakova”—in English, garlic—and which, together with black rye-bread, forms the main body of their daily diet. “The fact is,” says Dr. Gundurm, “that the population of Bulgaria eats or drinks very little “kiselo miljeko,” as sour milk is known there. But they eat great quantities of garlic: three times daily. ‘*Tscheschnakova Tscherba*,’ or garlic soup, is the favorite dish. It is prepared with grated garlic, cold water and paprika—a natural pepper. The Bulgarians are strictly orthodox. They have many and long periods of fasting, during which products of animals may not be eaten. These fasts are rigidly kept and during that time garlic and garlic soup are the principal dishes. “As the result of my five years of investigation in Bulgaria,” concludes the Croatia health-commissioner in his official report, “I have come to the firm conviction that the remarkable health and long life of the

simple abstemious ways of living and the Bulgarians is due to nothing else than their abundance of garlic in their food."

CHAPTER XIV.

HOW CERTAIN COMBINATIONS, SUCH AS MILK AND FRUIT, FRUIT AND CERE- ALS, MILK AND MEAT, AFFECT DIGESTION AND NUTRITION

The combination of milk and fruit has digestive and physiological possibilities only when restricted to certain limiting conditions, such as an empty stomach, free from digestive labors; a liver with no symptoms of complications, or the absence of any other form of nourishment save the fruit in connection with the milk.

Being in itself largely a proteid, the behavior of milk in the system resembles that of any other proteid, such as eggs, meat, fish, cheese, etc., which means that in case it fails to digest, it breaks down into processes of decomposition. The difference between the proteids and straches, with regard to indigestion, lies in the fact that the latter ferments, and the former decomposes—while fruit, being at once a solvent and a disinfectant, counteracts the bacterial processes by a system of gastric housecleaning all its own. But while fruit by its

germicidal properties thus prevents bacterial invasions, it also prevents, or at least interferes with, digestion, as the gastric and intestinal secretions, required for the digestion of starches and proteids, cease to flow in the presence of fruit-acids. This action of the fruit, which in the digestion of starches and proteids proves itself a hinderance, may in its relation to the digestion of milk, become a positive aid, owing to the peculiar character of milk, which being an albuminoid, is digested neither in the mouth nor in the stomach, but in the intestine, where the fruit-acid forms a powerful help to the liver and pancreas in the processes of emulsification.

This explains at once the seeming incongruity in the relation of fruit to milk, as compared to its relation to meat, cheese and other proteids. For as already has been shown, by its power of disinfection, fruit keeps the putri-factive bacillus out of the digestive field; while on the other hand it becomes a hinderance to the digestion to the extent it inhibits or neutralizes the flow of the normal secretions demanded for a successful starch and proteid digestion. It is furthermore this very action of fruit in relation to milk, that gives rise to the sensation of successful digestion, when in fact no digestion has taken place at all. The gastric activity has been limited to a mere process of disinfection by means of which the otherwise inevitable bacterial invasion of the

digestive field has been inhibited. Hence the success of the milk- and fruit-combinations is essentially of a negative quality, with its sole virtue in the prevention of a systemic poisoning, generated by itself.

But even this advantage is lost if to the milk and fruit combination is added meat, beans, bread, egg, etc., or any form of starch or proteid foodstuffs; as, in the first place, the presence of the fruit-acid in the mouth will close the glands of the ptyaline secretion, on which the starch depends for its digestion;—and, in the second place, the same acid will inhibit the secretions in the stomach of the hydro-chloric acid on which depends the digestion of the proteids. Hence, the only safe way to enjoy milk and fruit is to take them on an empty stomach, distinct and separate, with an interval of at least two hours,—the milk always to precede the fruit in the order of their consumption. This insures a well-needed acid to the liver, in its task of emulsifying the milk, so as to render it susceptible to the lacteal absorption.

The effect of a mixture of milk and meat is particularly hostile to the orderly unfoldment of the life-and health-sustaining forces of the body. Besides the general interference with the action of the digestive juices, the combination of milk with the uric acid, present in the meat, generates dangerous alkaloidal bodies, which in case of ptomain development may

strike at life with the suddenness and fatality of a deadly poison.

The fate of the meat suspended in a medium of pepsin, whose disinfective properties, when divorced from hydrochloric acid, are none—and in a temperature of 97° Fahr.—is readily seen. For the ways of alimentation are two only: digestion and decomposition. If the meat is not digested and assimilated, it is turned into corruption, with its inevitable consequence of systemic poisoning. Hence, a principle in diet—ever to be held inviolable—is to avoid mixtures of milk with meat.

CHAPTER XV.

THE EFFECT ON THE SYSTEM OF MALTED MILK AND ICE CREAM

The value of malted milk rests on its non-fermentative constitution. The isolating, encapsulating properties of the malt, while preventing it from bacterial attacks, also prevents it from the action of the digestive secretions, which means that to a large extent the preparation passes through the system undigested and unassimilated. Its stimulating influence is due to its large percentage of "free" sugar, which always has an affinity for oxygen. It is this power of the sugar to attract oxygen from the system and conduct it into the digestive field that gives rise to a frictional glow and subsequent burst of liberated, functional vigor, throughout the organism. But, as in all cases of stimulation, the system itself has to pay for its sudden invigoration, in terms of future depletion, so in the case of malted milk the effort of the stomach and liver, to separate the malt from the milk, gives rise to a great expenditure of energy, without being accompanied by any adequate nutritional recom-

pense. It shares with common milk the quality of rendering any substance with which it is made to combine, difficult to digest; hence, it is safe to say that there is no advantage in the use of malted milk, which is not also obtainable in the use of ordinary milk. In either form it should be taken alone, and modified with lime water, in the proportion of one teaspoonful to a cup.

Now as to the safety or unsafety of the milk preparation known as ice cream, it must always be borne in mind that it is a combination of cream, sugar and flavoring extracts, with a temperature at the point of zero. This at once makes plain the relation of ice cream to human digestion—its benefits as well as its dangers. For, as no digestion can normally proceed at a temperature short of 97° Fahr., it follows that taken as a dessert, at the end of a Sunday dinner, a dish of ice cream falls like a blighting frost over the digestive labors, bringing their operations to a deadlock if not speedily relieved by a rush of blood and nerve power to the digestive field, at the expense of the other organs and functions of the system. That the system must pay in full for the dissipation, in terms of muscular and nervous energy, is plainly indicated in the general drowsiness experienced after such an unwise indulgence.

Yet, the low temperature is not the only objection to ice cream as an element of a re-

spectable dinner. Its constitutional make-up of sugar and cream will by its very nature give rise to fermentation of the food with which it is combined, according to the inevitable law that obtains in the realm of chemistry—whether the processes of the latter take place in the human stomach or in the chemical laboratory;—that, whenever sugar is added to starches, to proteids or to fats, the result is an evolution of poisonous acids, arising in consequence of the inevitable digestive breakdown into processes of fermentation and decomposition.

However, there are times and conditions when ice cream is dietetically legitimate, whether enjoyed under the high temperature of the body—as in fevers—or in the high temperature of the season—as in the summer heat. But the condition—never to be ignored—is the empty stomach; and the isolation from any other foodstuff. As a further guaranty for safety in enjoying the luxury of ice cream, the liver and kidneys should be in normal working order.

If these conditions are complied with, ice cream may be an enjoyable dish, and beneficial to the extent it reduces the high temperature, and adds energy and proteid, in an easily assimilated form, to a fever-consumed system. The ice as a heat absorbent attracts the blood from the periphelial tissues of the body, and this tends to relieve the congestion and stag-

nation of the general circulation. But this benefit is altogether lost if the ice cream is indulged in the form of dessert at the close of a meal, when the stomach is in the throes of a laborious digestion. It is not so much the things themselves that hurt us, as the manner in which we enjoy them.

CHAPTER XVI.

CAN THE CHEFS AND CAPTAINS OF THE KITCHEN BE TRUSTED WITH OUR PHYSIOLOGICAL WELFARE?

The nicety of adjustment existing between the needs of the organism and the supply of food, is lost to the individual when he permits his system to be gorged by undietetic mixtures, either in the form of preparations of the food itself, or in the combinations of the heterogeneous dishes thus prepared. For through these mixtures an altogether alien taste is imparted to the food, and as the chief function of seasoning lies in its stimulating effect on the gastric secretions, relative to the digestion of food, which again means an undue irritation of the glandular mechanism, that produces the sensation of appetite—it follows that the normal relation between the self-conscious irritation of wants felt as hunger, and the unconscious or unperceived needs or necessities of a system, is entirely lost, as long as the individual proceeds to indulge in things and ingredients for which his organism has positively no vital needs—neither quantitatively or qualitatively. By a clever juggling with su-

gar, grease and flavoring extract, the cook can so mask the original character of food that the stomach, utterly deceived as to the power of the charge, proceeds to whip its secretory glands into activity, urging the individual to continued indulgence, far after the needs of the nutritional system have been satisfied.

There is a pathetic, not to say tragic, element in the trust and confidence with which we accept the culinary manipulations and gustatory sleight-of-hand performance of this dangerous functionary of the kitchen. Under his guidance we are rendered utterly blind both to the needs and the capacities of our digestive system, while losing all sense of the life-and-health-determining flavors contained in the uncontaminated natural foods.

While constantly devising new schemes and methods to affect control over the activities of the world of microbes and bacillus, by a scrupulous disinfection of every article exposed to public usage, we are serenely indifferent to the infections arising from the ignorance or unscrupulous boldness of our cooks. Thus, like Prof. Metchnikoff, we may bake our napkins, sterilize our milk, and immerse our salad lettuce in a pot of boiling water, as safeguard against microbic invasion—and yet remain indifferent with regard to the utter ignorance of every dietic and physiologic principle of the chief functionary of the realm—the cook himself. A railroad engineer, a

street-car conductor, or a chauffeur, are compelled to acquire a knowledge of the principles and factors involved in the operation of their respective machines, but a cook is permitted to take charge of the most vitally important department of the home—the kitchen—where is prepared and combined the elements on which, as living, vegetative creatures, we depend for our health and strength — without subjecting him to a single examination with regard to the principles involved in dietetic or physiologic chemistry. The effect of food combinations on digestion and assimilation, and the reactions of these mixtures in relation to dyspepsia, catarrh and general functional disturbances, have not the remotest meaning or significance to him. We are very particular that our baker delivers his bread in sterilized, hermetically sealed paper-wrappers, but take small interest in the treatment of the bread itself—its arsenic bleached flour; its sponge, soured by yeast-spores, sweetened by saccharine, lightened by soda and stiffened by alumn —ingredients which both chemically, mechanically and vitally, undermine the integrity of the sensitive mucous lining of stomach, intestines and kidneys—while, as an end-effect, poisoning the entire circulation with its fermentative processes.

Or how about the personality of the man himself with whom we trust the serious business of turning out our daily bread? What

about the influence of his moral and physical nature on the contents of the dough into which he pours his breath, and digs his hands? Are we not daily reminded, by investigations of the psychic and moral laws, which are operating back of mental and physical existence, that emotions are terrible factors in human life, and that the physiological processes of our nature are both directly and indirectly influenced by our psychic and mental indulgences. Prof. Elmer Gates proved, by perfect scientific methods, the power of anger to poison a glass of water in which the angry subject had immerced his hand; while the same authority found that food taken into the stomach by a man in anger generated poisonous changes in his gastric secretions and seriously affected his whole system.

CHAPTER XVII.

THE FAILURE IN DEPENDING ON SYMPTOMS FOR A DIAGNOSIS OF DIGESTIVE DISORDERS

While we recognize the importance of educating our children in the scientific treatment of plants and animals—the science and philosophy of food, and its sane combinations, on which the sole possibility of physical health, strength and endurance is based—has as yet no true representation in the realm of public instruction. And furthermore, when broken down through dietic errors, the individual appeals to his physician for help and council, he is generally advised to “eat anything that agrees with him” and “take the medicine faithfully.”

Such advice, however, is one of the most pathetic errors committed by medical practice against humanity. To advise a person to be gauged by his own taste, when his very position as diseased, indicates the abnormal and unreliable condition of his taste as well as appetite—is inconsiderate to a point of inhumanity. A stomach, perpetually outraged by

a long career of dietetic errors, drastic medication, digestive tonics, purgatives, eliminants, etc., is no more reliable as a guide for the quantity and quality of diet, than the man with burst ear-drums, is to be trusted as a musical critic. There is nothing graver in the mistakes of medical practice than to turn a patient over to the whims and caprices of an overstimulated and unbalanced appetite. Furthermore, a man's stomach may often be the strongest part of his constitution, enduring outrages, with apparant impunity to the owner, until function upon function of his physiological make-up, is breaking down under the colosal strain of accumulative systemic poisoning. Its mucous linings may be torn by ulcers and pustules, bleeding from abrasions, and reeking with infections—and yet endure, with no particular demonstration to the owner, almost incredible abuses in eating drinking and smoking. Drunkards with ulcerated stomachs may continue to indulge in immoderate quantities of strong liquors, with only slight gastric inconveniences.

The explanation of this strange phenomenon is found in the fact that nature in the course of her pathological career, adopts a system of chloroforming or rather asphyxiating her morbid processes, so as to render her nerve-paths and nerve-endings insensible to the extent the advancing disease causes the tissues to be useless in the service of life.

There is a supreme economy in the organization and distribution of vitality in the body, and the moment pain ceases to be useful as a means of warning to the disease-threatened organism, it ceases to irritate and to shatter the conduits of the nervous apparatus.

For pain is an effort of local nerve centers to call the attention of self-consciousness to a threatening danger. The center of consciousness which controls the sympathetic, vegetative, involuntary, "subconscious" nervous system, is the *Modulla Oblongata*; while the center of personal consciousness which directs the movements of the cerebro-spinal, voluntary, self-conscious nervous system is located in the frontal regions of the cortex. The two systems are distinct and independent, though their respective impulses may become reflected from one zone or circuit of consciousness into the other. In other words, *Medulla* deals with man as a vegetative animal—with his animation and nutrition; while the cerebro-spinal system deals with him as a self-conscious thinker — generating, coordinating and directing his impulses of cognition and intellection.

From this it is readily seen that there may be sensations within the sphere of the sympathetic, subconscious system that never rise into the sense or feeling of self-consciousness; as it is only when the impulse from the former becomes sufficiently intense to cause the dis-

turbance back of it to pass beyond the adjusting power of the Medulla Oblongata, that the latter feels the need of cerebro-spinal or self-conscious aid, and thus in consequence, flashes the impulse across the circuit of the brain consciousness, with its result in pain. This means that morbid processes due to dietetic and hygienic transgressions may be constantly forming in the system, but remain below the level of self-consciousness as long as Medulla Oblongata, through the agency of the Opsonic reserve forces, has lost the power to dissolve them, or to keep them from rising above the level of self-conscious sensibility. There may, however, be felt a dull sense of discomfort—a muffled pain—due to stray impulses, transmitted sporadically by way of leakage through abraded nerve insulations.

From this it may be easily understood that symptoms are not reliable as diagnostic factors, and that a disease may be developing in our organism and yet be perfectly unknown to us. In fact, an individual may revel in physiological vigor and defy with seeming impunity every dietetic and hygienic principle, and yet fail to realize that his vital system, center after center, function after function, is gradually yielding to the conquests of a slowly and insiduously advancing general breakdown.

CHAPTER XIX.

THE ONLY ROYAL ROAD OF DIET

This “do as you please,” and “eat what agrees with you” system has been a great barrier to human health. In this staggering mixup of our present range of things eatable, where human ingenuity constantly invents or discovers new means and methods of indulgence, a haphazard unprincipled “eat what you please” system of diet must naturally give rise to incalculably dangerous complications. To be safe, we must act sanely and deliberately—and in all the world’s system of dietetics there is but one safe line of diet: the one based upon the judgment of reason, in the light of duty, and under the force of moral and physical survival-value. Well or sick, the individual should be governed by one single motive — duty and moral obligation. Without the motive of duty to life, for life’s own sake, diet becomes a mere juggling with vital values—a game of chess in which the player tries to outwit his physiological limitations. His object is to win the prize without the conquest. To be really and truly well, one

condition is indispensable: the absolute surrender of craving and appetite, to needs and usefulness. The individual must be governed by one single object in relation to diet: to eat for the sake of health and usefulness only, and be ready to drop any desire or appetite out of his life, the moment he realizes it as baneful to his welfare. Only on such a basis has knowledge any real practical and evolutionary value—only on our willingness and readiness to do what is right, can a knowledge of the right serve as a power and an uplift to human life. The program for an advanced evolution is ever the same; aspiration, knowledge, will—and through will, the power of execution. To will, to dare, to do, is the formula for every worthy and valuable attainment in human evolution.

CHAPTER XX.

THE RIGHT AND THE WRONG SIDE OF COFFEE

During the four hundred years coffee has been recognized in the western world as a popular beverage, its power to control the minds and palates of its devotees has constantly increased. Its immense popularity as a world-beverage has not its basis in its taste, however, as is the case of sugar, nor in the cerebral intoxication with its unreasoning and unreal functional exuberancy, as that of alcohol; but in the energies generated in the bean itself, and imparted to the system in the form of muscular and vascular release. Hence the vital difference in the effects on the body, between alcohol and coffee, lies in the fact that in the former case the system has to pay for its over stimulation, but in the latter — if rightly enjoyed — the bean itself pays for the expense. This accounts for the weakening, exhausting reactions of the whisky stimulations, unknown to the “cup that cheers but not intoxicates.”

The effect of coffee on the system, however, is largely determined by the conditions

under which it is prepared and enjoyed. Suspended in the bean is found a volatile substance—the empyreumatic oil—which gives taste and aroma to the coffee, and at the same time exerts a reducing and modifying influence over the stimulating power contained in its twin-principle—the caffeine. Taken together, these two elements, hold in a safe balance the stimulating and invigorating impulse contained in the coffee bean.

But this fine adjustment is available only when the coffee has a truly hygienic preparation. Exposed to boiling, the caffeine decomposes into an acid—caffeic acid—which through the empyreumatic oil breaks down into an alkaloid. This changes the entire character of the coffee, which, from a bracing, self generative invigorant, is turned into a nerve-lashing, exhaustive stimulant, in which the adjustment or balance between the stimulating and regenerative powers of the bean has been destroyed. Hence coffee should be zealously guarded from the boiling pot, and should be prepared solely by the process of infusion through steaming, or the percolating process.

But apart from these constitutional qualities of coffee there are other conditions connected with its use, of which the coffee-drinking public cannot afford to be in ignorance. Barring a mere trace of nitrogen, the coffee bean contains no element of nutrition—con-

sequently is not a food—and must, therefore, remain classed as a systemic stimulant. For an element which has no cell-building power, has not the vital or physiologic legitimacy in the system held by food, and hence should not share the regularity of the latter as a means of replenishment.

Coffee is a remedy—a medicinal agent—introduced by nature in the service of man, under conditions when his system demands it. Furthermore, as a tropical plant, its sphere of virtue must naturally and evolutionally be connected with environmental influences. This will readily be seen when we recognize that the circulation of the system in general is under the influence of the quality of pressure received respectively from without and from within the organism—from without, in the low temperature of the atmosphere assisting the blood from the circumference to the center—and again from within, by the pumping action of the heart, forcing the blood from the center back to the circumference. In the tropics, however, where the temperature is higher outside than inside the body—the blood in its course from the periphery would be assisted in its exchange if an agent of expediency were introduced as a modifying force in the organism. Such an agent we find in the high percentage of quick combustible sugar in the tropical fruit; in the high stimulant of the native spices, and in the re-invigorating

principle contained in the coffee bean. In other words, coffee by its power to stimulate the innervation of the central vessels and tissues, and thus direct the blood-stream centerward, accomplishes the same result from within the organism, as the lower temperature of the temperate zone does from without.

This makes of coffee a tropical beverage, not only genetically but also conditionally and qualitatively. But as on the other hand each individual is a world in himself, with needs and necessities all his own, we may expect to find in the general temperament of man, such tendencies and characteristics which may demand for their modification and adjustment the same expediency which is represented by coffee in the tropics. Hence, as an occasional nerve stimulant and temperamental adjuster, coffee may be enjoyed even in the temperate zone by those whose temperament is subdued, and whose nervous exchanges are under control. By the high-strung, highly organized and nervously poised individual, coffee should not be used.

Moreover, in the philosophy of nutrition there is a principle which should never be lost sight of—that the only stimulant which can be safely enjoyed as part of our daily menu, is the stimulant contained in the food itself. As an integral part of its nature, every foodstuff contains a stimulant, so poised and adjusted that it imparts a natural impulse of power to

the processes of digestion and assimilation. Divorced from this combination, the stimulant becomes a mere lash or irritant, which has needs and uses only as expediency, when environments and conditions make such adjustments necessary.

For those, whose temperaments permit the use of coffee, no admixture of sugar and cream should be allowed to interfere with its virtue. Cream especially perverts the nature of coffee by reducing its empyreumatic oil into a tannic acid compound — at once indigestible and toxic, giving rise to the formation of bile acids in the liver, with the subsequent appearance of a muddy complexion—due to bile pigments deposited in the skin. Another precaution of no less importance to the safe enjoyment of coffee is its temperature. From strong physiological reasons no beverage should be permitted to enter the system at a higher temperature than blood heat, and it may be safely said that the greater injury wrought by the consumption of coffee lies in its admixtures and temperature, rather than in native disqualifications.

CHAPTER XXI.

HOW TO ATTAIN THE GREATEST DEGREE OF EFFICIENCY

There is a strange form of egotism in mankind, which seeks expression in a desire of possession of things and objects for their own sake—even if the realization of this desire threatens with disaster and ruin.

In our relation to the use of food, and the act of eating, this fact is especially eminent. For there is a law in life, as inviolable and invincible as the law of gravity—that a possession for which we have no need, becomes a burden. Hence, eating, to be conducive to health and strength, must have its motive in usefulness and service, and its fundamental basis in necessity.

From this it follows that any vegetative act which has not its urge and condition in conscious necessity, lacks harmony and co-operation with the sweep of evolution—which means isolation from true growth and progress. Every ounce of nourishment we take into our system, not prompted by the spirit of usefulness, or in response to positive nu-

tritional needs, is turned into systemic poisons and their inevitable cellular break-down into enforced eliminations. These eliminations arise from a double necessity; partly because the poisons must be removed from the system to admit the play of organized life, and partly because the excess of nourishment represented by the poisons, is appropriated, physiologically illegitimate, from other systems or organizations of growth. For the rule of evolution is expressed in terms of elemental justice, which, when concretely applied, means balance, equity, harmony, growth and power—energized and adjusted by the driving force of necessity. The universe has limitless supply for every true need, but not an ounce for useless possession. Economy is the spirit of evolution, the condition of growth, and the key to power; and to disregard this principle in our daily mode of living, invokes the life-dissolving forces of weakness, disease and suffering. For what is disease but wrong proprietorship, perverted economy, in which the sufferer either tries to use up something to which he has no individual rights, or fails to utilize and develop something with which he has been evolutionally and biologically trusted. In the former case, the individual is of the egotistic type, with his entire nature absorbed in his own growth, intent on the appropriation of every object of his desire, regardless of the vital proprietorship of others;

while in the latter, he fails to assert his own legitimate, evolutionary and constitutional rights, exposing himself to the life-sapping, self-decentralizing influence of alien, egoistical forces.

For it is the balancing action between the assets and liabilities of the mental, moral and physical universe, as related to individual, evolutionary rights, that is expressed in the personal aspects of good and evil, death and suffering, unfoldment and degeneracy. This means that whenever an individual has appropriated more food than the metabolic exchange of his system demand, he inflicts upon himself the inconveniences and sufferings, that inevitably spring from excess in food and drink. In the sluggish system where the centrifugal forces of elimination are too feeble to throw off the excess, the unused waste-deposits condense and crystalize in the joints and flexures of the body, where the circulation is slow, and readily degenerates into forms of rheumatism, gout, neuralgia, hardening of the liver and arteries, etc. On the other hand, if the individual has the nervous temperament, with eliminative powers strong enough to dislodge, at the eventual crisis, the result of long periods of waste-accumulation — the disease may assume the acute type of elimination as manifested in pneumonia, typhoid, cancer, boils, ulcers or any inflammatory febrile waste-removal. In either form of disease, the

presence of excess of nourishment is clearly demonstrated: the presence of supply beyond the need, and the power of digestion below the power of elimination.

Back of the entire process of physiological morbidity lies the desire of the individual to possess and enjoy the things of life for the mere sake of personal power and self-gratification. For in assuming this attitude, the individual violates the laws of his own being, and in the very strain of his self-interest, isolates himself from the source of his own eternal existence, and from all the forces that make for health, power and preservation. In other words, in place of rendering himself receptive to the cosmic urge, and plastic to its creative force-currents—with the subsequent benefit of a perpetual rejuvenation through its purifying drainage and reconstruction of his moral, physical as well as psychic nature—the self-consumed individual compels the life-stream to terminate in himself, and by its stagnation harden and congest his nature into mental sterility and premature old age. Or in the words of the great world philosopher of Nazareth: “he who saves his life shall lose it, while he who gives it shall win it everlastingly.”

Thus the indulgence of the glutton entails the consequence of a double transgression or double guilt; the destruction of his own self, and the subsequent infringement on the wel-

fare of other selves. For in a perfectly balanced universe, the excess of one of its parts must necessarily result in the deprivation of others. And furthermore, as the balance of nature can remain disturbed, no matter how minute, only during the lapse of a certain cycle of time—a movement is started in the very process of the individual transgression, by which in the form of physiological derangement, the system of the transgressor is compelled to yield up, grain by grain, under the travail of disease and suffering, the very things he usurped from the elemental storages. And this is the personal atonement awaiting every transgressor; the inevitable condition for the restoration of the broken world-harmony, or final return, through the dissolving personality of the transgressor, of the parts and elements required for the wholeness and completeness of integral universal life.

This fact holds strongly before us the futility and danger of a life spent solely for oneself. It has been brought home to our consciousness that we can retain and profit only by that which is vitally and fundamentally due to us, and that any true advantage in health and power, derivable from life, has its sole basis and possibility in our evolutionary merit and desert. For the same necessity which compels the individual to reap what he has sown, also keeps him from reaping what

others, but not he, have sown. Our relation to nature and to life, is entirely based on the principle of stewardship: personally we have no permanent possession. Personal proprietorship has its sole fact and permanence in universal proprietorship, and arises in our effort to love our neighbor, not only as ourselves, but in ourselves. Life, like water, retains its purity only by unceasing exchange. In either case isolation means stagnation; and the egoist, who lives for himself only, faces constitutional degeneracy and decay.

The lesson taught by the science of life and the philosophy of living, is revolutionary in its very simplicity and reasonableness. Religion and morality have no greater support than in the natural science, undogmatically applied. It uncovers the paths that lead from guilt to punishment, from selfishness to suffering; while at the same time it justifies nature to the sufferer as she proceeds with relentless energy, through the agency of disease, to remove the reeking, decomposing, tissue-corroding, self-generated waste poisons from the system. We become convinced that nature, always kind, always helpful and restorative, in her very destructiveness carries the possibility and ideal of resuscitation and salvation. It is in spite of nature that we succumb to her processes of vital restoration; while death marks the failure of the individual to "make good" his part of the program. For what is death but

the lack of systemic nerve-power to sustain a coherent functional reaction to nature's vital excavation and elimination of a self-imposed physiological breakdown. The majority of deaths are practically suicidal, and if occurring prior to the age of 90 or 100 years, are contrary to every law and principle of a progressive, health-and-strength promotive evolution.

CHAPTER XXII.

DIET FOR THE LEAN AND FOR THE FAT

As all things come to those who wait, providing the conditions are right—so fat will come to the lean providing they observe the laws of health, and otherwise possess, or strive to cultivate, the constitutional nervous poise which is conditional for a development of adipose tissue.

As necessary conditions for a normal development of fat, an abundant supply of pure air and water must come first on the program. Nutrition is a closed event the moment oxygen fails to enter the vital processes of digestion and assimilation; and the richest and wholesomest food degenerates into waste-matter if not bathed and saturated by the oxygen-laden air. For while rich food may give increased weight, even with imperfect breathing—yet the latter is not due to a development of healthy, physiological tissue, but to its pathological counterfeit—fatty degeneracy. Leanness and emaciation, if not associated with

functional disorder in some part of the system, are due to a want of appropriating power of the alimentary zone, and in a deficiency of the sympathetic absorption. The restoration of a healthy tonicity to the involved centers of nutrition will therefore require the infusion into the cell-life of some drastic agent, with powers to awaken the dormant metabolic energies of the sympathetic system. Hence the first thing in the morning, and at least one hour before breakfast, should be to drink slowly a glass of cool water, seasoned with seven drops of lemon juice. A breakfast for the lean should contain an easily digestible proteid in some such combination as the following:

- 1—A soft boiled egg.
- 2—A generous slice of well baked Southern "Hoe-cake" (cornmeal bread) over-spread with a teaspoonful of sage honey and unsalted butter, or in place of honey some stewed fruit.
- 3—A glass of strong malt-extract (to be slowly sipped after the breakfast is completed).

The following lunch, containing some light meat, selected from the following list, would be advisable:

- 1—Roast chicken, roast turkey, wild fowl, stewed rabbit, baked surf-fish or flounder.

- 2—One of the following combinations of well cooked vegetables: turnips and beets; carrots, parsley and stewed onions; cauliflower and parsley; spinach and egg-plant; summer squash and string beans.
- 3—Unpolished rice, or cornmeal mush, or baked potato (either sweet or Irish), or in absence of either, whole wheat, well baked bread.
- 4—One cup of tea of wild cherry bark (to be slowly sipped at the close of the meal).

At 4:30 p.m., if the stomach feels empty, some fresh fruit is permissible, preferably apples, sweet grapes, fresh pineapple, persimmons, pears—but only one variety at a time.

For the evening meal, one may enjoy:

- 1—Lettuce, celery, carrots and parsley; lettuce, black olives, chopped cabbage and parsley, etc.
- 2—A generous slice of stale, hard rye or whole-wheat bread.
- 3—English walnuts or blanched almonds (to take the place of meat).
- 4—One cup of Lahman's **pure** cocoa, unsweetened (to be slowly sipped at the **close** of the meal).

At the time of retiring, take a well ripe, raw apple, or a blood-warm, well agitated

glass of milk—as temperament and inclination may decide.

Each meal should be preceded by a teaspoon of olive oil.

Twice a week at bedtime, take a sitz-bath of 100° Fahr., containing a strong motherwort decoction;—and once a week a tub-bath, 107° Fahr., with an infusion of Epsom salts: one pound to each ten gallons of water.

Cocoanut oil and olive oil, used in a complete body massage upon retiring, are aids to nature in building up the tissues.

An important rule to observe is to take an outdoor walk of about one mile between each meal, and a short sleep of some ten or fifteen minutes immediately before dining.

The intervening time in the morning, between rising and breakfasting, should be spent in light, physical health-culture exercises, deep, rhythmic breathing, cold towel rubs, etc. And above all, as one of the greatest promoters of digestion, cultivate a spirit of imperturbable harmony in word and act through every phase and aspect of life.

CHAPTER XXIII.

OBESITY

As obesity is due to either the one or the other—or to both, of the two causes: excess of fat-producing material in the food, or deficiency in oxygen for a thorough combustion—it follows that the only scientific and sane remedy to be recommended to those, overburdened by fat, is to abstain from the former and increase the latter. And, furthermore, as the excessive fat-producing material has its essential and primary representation in the sifted white flour and extracted sugars of commerce, the first and absolutely inevitable step will be to remove these two items from the diet. The next move is to introduce an earnest and practical system of deep and rhythmic breathing.

The corrective role played by deep breathing in the case of obesity is readily appreciated in the fact that the formation of abnormal adipose tissue proceeds through a more or less faulty metabolism associated with the deeper cause of insufficient oxygenation of the blood.

The safe-guard against fatty degeneracy is consequently to be found in a clean, whole-

some, natural diet, made up mostly of raw, juicy fruits and vegetables—enjoyed at distinct and separate times. Breakfast if, taken at all, should consist solely of:

- 1—Baked apples, or stewed prunes, or some one variety of fresh fruit in season.

For lunch a few nuts and a combination-salad made up of some one group of congenial vegetables, like the following:

- 1—Pecan-nuts or English walnuts.
- 2—Lettuce, raw carrots and turnips; or lettuce, onions, tomatoes and parsley; or lettuce, chopped cabbage, black olives, served with home-made mayonnaise dressing.

The menu for the evening meal may be composed of:

- 1—Beet-tops, summer-squash and boiled cabbage (plain), or dandelion greens, turnips and mustard greens, or spinach and celery, or stewed onions, carrots and parsley.
- 2—Hard, toasted, whole-wheat or rye bread (one or two slices), or a baked Irish potato.

No fresh bread, mushes, puddings or cakes at any time.

AVOID beans, peas and lentels.

Lean meat may be used three or four times a week, preferably at the noon-meal, but never in the fried form of preparation. Milk, cream, butter and animal fats should be carefully avoided.

At time of retiring enjoy a raw, tart apple.

Every morning, an hour before the first meal, drink a cup or two of hot water, containing the juice of one-half lemon.

Plenty of brisk walking is a splendid exercise for the fat, also the practice of such games as golf and tennis.

Hot baths containing one pound of Epsom salts to each six gallons of water should be taken at night,—three or four times a week, the length of time not to exceed 15 minutes.

Like leanness, however, obesity is often influenced by the attitude of the mind. As the former may be aggravated by restlessness, discontent, worry and nervous tension—conditions that like a high-frequency electric current, consume the insulating protective coverings of its circuit—so, on the other hand, the sluggish, indifferent, indolent nature, may by its mental inertia, cause stagnation in the vital currents of the system, from which rise deposits of degenerate tissue. Vital interest in the world and its humanizing issues; willingness to serve and to sacrifice, ever sensitized and responsive to the wants and sufferings of others—may often be more efficacious than

dietetic and physio-cultural measures in restoring the poise, harmony and beauty to the grandest creation of universal life—the human body.

CHAPTER XXIV.

PRACTICAL HEALTH-CULTURE FOR THE BUSY MAN

As a basis for the attainment of the highest success in health-culture, it must be borne in mind that we grow in the direction of our motives. The purpose of an act determines its character, strength and value as a part in our evolution. A movement which has itself for purpose—i. e., seeks progress for its own sake—limits to that extent its possibilities of development, and like outbursts in elemental nature, such as storms, thunders, hurricanes, etc.,—in ceasing to be serviceable to general growth, become isolated, and in their isolation, by recoiling on their own centers, generate a new energy, which by its new keynote of vibration, breaks up and eliminates the original movement. It is the law of life, at work in the vastness of cosmic systems, as well as in the microcosmic unit of the individual atom, that every process hostile to the unity of life, by its very activity becomes self-destructive. The vision of solidarity, the call of service, the urge for usefulness in relation to society and humanity, should constitute the ruling motive-powers back of every breath of air and

traction of muscle. Inspired by this centralizing, unifying thought, every stroke of practice will increase the force of the constructive and regenerative reactions upon the system. In place of invoking the merely mechanical and elemental energies of professional chamber gymnastics, the individual, by his larger motives of universality and solidarity, connects himself with the deeper force-aspects of nature, forming conduits with the most vital, the most tissue-strengthening and health-sustaining of all world-dynamics—the forces of love, of will and of individuality.

Hence, upon awakening, begin the exercises by fixing firmly in the mind the motive and significance of the day's endeavors.

1—Take a deep breath. Extend hands and feet, with alternating intensity, repeating the tension some ten or fifteen times. Then turn on face and continue the stretch the same number of times.

2—Turn on back, seize the ankles firmly and make strong efforts in extending the legs, causing the tremor of mechanic shocks to go through the entire body.

3—Let go the ankles; extend the legs with great force, assuming the attitude of one who determinedly kicks at an object. Repeat twenty-five times, or until the muscle is fatigued.

- 4—Rise on feet, swing arms in circular rings, imitating the arms of a wind-mill in action; while at the same time, exhale and inhale, in deep, rhythmic processes—aiming at a complete filling and emptying of the lungs. No residuous air to remain in the lungs. The movement of the arms should proceed in perfect independence of the action of the lungs. Do not overstrain; cease when fatigued.
- 5—Slap both sides of the chest with palms of hands turned concave, while continuing the deep breathing movements.
- 6—Bend forward, reaching the floor with the hands, followed by a corresponding backward swing—the latter, however, with knees bent.
- 7—Rotate head on shoulders—following closely the limits of extension in all directions.
- 8—Rotate body with the hips for a pivot, while the hands are clasped over the crown of the head.
- 9—Place yourself between the backs of two strong, heavy chairs, with a firm grip on each. Then send your foot forwards and backwards with great striking energy, while lending force

to the movement by a backward bend of the spine and head. Alternate the position of the feet.

10—Hands on hips; sit down in a squatting position, resting on the toes. Continue rising and sitting until the muscles are fatigued.

11—Before dressing, rub entire body with a wet towel—especially the toes, foot-soles, pit of arms and groins.

12—Take a short walk before breakfast with sustained, rhythmic breathings. Upon returning, spend five minutes prone on the face, thoroughly relaxed, before eating breakfast.

Each exercise should be continued only to the point of fatigue, and intervened by a moment of perfect relaxation.

CHAPTER XXV.

SPECIFIED BILL-OF-FARE FOR ONE WEEK'S HYGIENIC DIET

Monday.

Breakfast:

1—Onion-oatmeal-flaxseed cream:

(To prepare: soak one tablespoon of Scotch, steel-cut oatmeal and one teaspoon un-ground flaxseed in a quart of water over night. Add in the morning, a sliced onion—the size of an egg—and a little salt, and keep at a boiling point for one and one-half hours, until it becomes the consistency of thick cream. Strain through a puree strainer very thoroughly before serving. One pint of this preparation to constitute the entire allowance per person for breakfast. No bread.

Lunch:

1—Raw vegetable salad (grated carrots, parsley and black olives on lettuce, dressed with olive oil).

- 2—Brazil nuts—two or three.
- 3—Slice of well-baked, whole-wheat bread.

Dinner:

- 1—Boiled onions (cooked with parsley).
- 2—Stewed carrots.
- 3—Broiled sirloin steak (one portion not to exceed three ounces.
- 4—Whole-wheat zweibach.

At bedtime:

A well ripe apple.

Tuesday.

Breakfast:

- 1—Stewed raisins. (See footnote.)
- 2—Cheese sandwich. (American cheese melted over a slice of whole-wheat toast.)

Lunch:

- 1—Raw vegetable salad (green onions, fresh tomatoes, parsley or lettuce with mayonnaise dressing, containing a mere dash of lemon juice).
- 2—Pecan nuts.
- 3—Whole-wheat zweibach.

FOOTNOTE.—Though not in strict conformity with dietetic principles, to mix acids and starches—raisins and bread—such a combination can be rendered safe if the starch of the bread is first destroyed by a process of intense heat, through second baking. This gives us the zweibach—twice baked bread—in which the starch is reduced into dextrine, and consequently is no longer subject to fermentation.

Dinner:

- 1—Baked Irish potatoes.
- 2—Summer squash with parsley.
- 3—Roast leg of lamb (three ounces). No bread or cereals.

At bedtime:

A raw, juicy apple.

Wednesday.

Breakfast.

- 1—Baked apple.
- 2—Poached egg on shredded wheat biscuit.
Cow's butter.

Lunch:

- 1—Salad (Raw grated carrots, turnips with parsley and lettuce, dressed with olive oil or mayonnaise.
- 2—Cornmeal mush (cooked two hours).
Cow's butter. No Bread.

Dinner:

- 1—Boiled cauliflower.
- 2—Stewed carrots with parsley.
- 3—Baked omelet.
- 4—Unpolished rice. Cow's butter. No bread.

At bedtime:

Raw apple.

Thursday.

Breakfast:

- 1—Stewed prunes.
- 2—Crisply toasted whole-wheat bread.
- 3—Peanut butter.

Lunch:

- 1—Raw vegetable salad (celery, parsley and ripe olives on lettuce with mayonnaise dressing).
- 2—Four English walnuts.
- 3—Boston brown bread (without the raisins).

Dinner:

- 1—Baked Irish potato.
- 2—Cottage cheese with chopped green onions spread on top. Cow's butter. No bread.

At bedtime:

Raw apple.

Friday.

Breakfast:

- 1—Stewed or steamed figs.
- 2—Bacon—small slice—crisp.
- 3—Toasted triscuit. No bread.

Lunch:

- 1—Raw tomato, stuffed with green peppers, parsley, chopped walnuts and black olives on lettuce.
- 2—Crisp whole-wheat toast.

Dinner:

- 1—Surf-fish or Whiting with parsley dressing (made from whole-wheat flour beaten with butter and chopped parsley).
- 2—Buttered beets.
- 3—Unpolished rice.

At bedtime:

Raw apple.

Saturday.**Breakfast:**

- 1—Stewed dried peaches.
- 2—Soft boiled egg.
- 3—Whole-wheat toast (zweibaach). Cow's butter.

Lunch:

- 1—Vegetable salad (cabbage slaw, parsley and chopped walnuts served on lettuce with mayonnaise dressing or olive oil).
- 2—Whole-wheat bread. Cow's butter.

Dinner:

- 1—Baked sweet potato.
- 2—Broiled Salisbury steak (three ounces).
- 3—Black ripe olives.
- 4—Chopped green onions. No bread.

At bedtime:

Raw apple.

Sunday.

Breakfast:

- 1—Cream of Groats (prepared as onion-oatmeal-flaxseed cream).
No bread.

Lunch:

- 1—Vegetable salad (raw carrots, celery and chopped walnuts on lettuce with mayonnaise dressing).
- 2—Roast chicken (three ounces).
- 3—Corn bread. Cow's butter.

Dinner:

- 1—Hominy.
- 2—Cottage cheese.
- 3—Butter milk.
- 4—Chopped walnuts.

At bedtime:

Raw apple.

FOOTNOTE.—Sufferers from diabetes, or any constitutional form of weak liver, would do well in trying the health-food preparation, "Phospho D. & D."—a flour put up by Mr. Dav. Harrison, Los Angeles, Cal., in care of "The Phospho Food Company."

CHAPTER XXVI.

REMARKS, REMINDERS, SUMMARIES

1—Drinking at meals.

From a strictly hygienic point of view, food should be taken as dry as cooking permits, and without drinks. The gastric juice is constitutionally so proportioned that any addition of extraneous fluids disturbs its chemical balance, and weakens by dilution its digestive powers. Yet there are individuals whose hydrochloric acid is too concentrated, and their foods too dry to admit of a thorough peptonization of the gastric contents, and in their case a glass of water at the beginning of a meal would be permissible. However, the promptings must come from the stomach itself, expressed as thirst. On the other hand, in no case of chronically distended stomach, dyspepsia, ulceration, with a manifestation of soreness over the pit of the stomach, should be allowed any drinking at meals.

After having closely considered the statements presented in the chapter on coffee, the reader, if he should still feel himself justified to continue its indulgence, may permit himself

a small cup of fairly strong "Barrington Hall Bakerized Coffee," at the end of his breakfast, but without cream or sugar. Such an indulgence may even be of positive advantage to him, as a physiological stimulation, if the hydrochloric acid in his digestive juice is weak.

2—Eating between meals.

It should always be remembered that if the amount of food, consumed at a meal exceeds the available supply of gastric juice—the portion of the food, not thoroughly saturated, remains undigested. This, of course, means fermentation, and the formation of gases and acids, poisonous to the system. Hence the meals should be small and well masticated. If by virtue of these small meals, hunger should be manifest between meals, a little fruit—preferably raw, and in season—is not only admissible, but with the exception of cases of profound gastric catarrh or ulcerations—is positively advisable. The fruit should be eaten at a time when the stomach can be surmised to be empty, which ordinarily occurs three or four hours after a meal. As the time required for the digestion of fruit seldom exceeds one hour, at least that length of time should be permitted to pass before the time set for the next meal.

As to the order of the meals during the day it should be remembered, that whenever the

exigencies of modern life permit, it is advisable to eat the meat at the noon meal, rather than in the evening. The strong, magnetic impulses generated by the animal substance when assimilated by the system, sends forth a wave of nervous stimulation, which lingers for several hours in the cell-consciousness, and disturbs a complete physiological repose.

3—How to prepare a Hygienic Mayonnaise.

To prepare a scientific mayonnaise, have a cup of four tablespoons of olive oil, and one egg, ice-cold;—separate the white from the yolk, and beat the white to a stiff froth in the **open air**, using a Dover mayonnaise egg beater. Then take the yolk and beat it separately until it is thoroughly agitated. Now slowly, by the mechanical device on the side of the beater for dropping, allow one drop of olive oil at a time to descend into the yolk, continuously beating in the open air until the yolk has “taken” the entire cup of oil—add a pinch of salt, a dash of paprika and a very little acid. Now slowly, a little at a time, beat in the stiff white, until the whole is a light, fluffy mass.

4—The different effect of vinegar and lemon juice on the system.

The different effects which different acids have upon the human nutrition, are due to the constitutional needs peculiar to each individ-

ual. The acid of vinegar is catabolic or disorganizing—that of lemon is anabolic, constructive. The former is a spade, for the purpose of excavating used up, and worthless, material—(oxidation or acidulation downward, in the series of evolution)—the latter is a trowel, by which new material is wrought into constructive forms—(oxidation proceeding upward, in the scale of progressive existence). Or, in terms of practical application:—to a person of the lymphatic, sluggish temperament, burdened with fatty tissue, and with a diet overcharged with animal grease and heavy proteids, in the form of pork, beans, cheese, eggs, etc.,—vinegar should take the place of lemon in his mayonnaise and other dressings. On the other hand, the person of nervous and high-strung temperament, with a diet largely consisting of carbo-hydrates—(the almost meat free diet)—should avoid vinegar in any form of food-combination, and take his acid invariably from the lemon juice.

Except as salad dressing, when its nature is thoroughly neutralized by the emulsification with oil, acid should never be used in combination with food. Free acid—in the form of lemon or vinegar—has the power to arrest the hydrochloric acid of the gastric secretion, and hence, if taken in connection with food, interferes seriously with the chemistry of digestion and assimilation. Thus with the exception of its amalgamated or emulsified form, acid should

only be used as a beverage, diluted freely with water (one-half lemon to one glass of water) and used only at a time when the stomach is empty—early in the morning or late at night, and at least one and a half hours before any subsequent eating. By its disinfecting and germicidal properties—if taken in this form—lemon-juice is of the greatest healing and restorative value to the stomach, liver and kidneys; while, furthermore, its power to act as a solvent on the calcarious, carbonaceous and fatty acid-deposits of the blood-vessels and general tissues of the system, renders the juice of the lemon one of the most important and constitutionally restorative agents of nature's pharmacopoeia.

5—Starchy food for the child, and for the man.

Starch, as a food, refers more to the needs of childhood, than to mature age. The accelerated growth of early life requires an amount of body-fuel, which, to the fully developed man would spell excess and malnutrition. Furthermore, in the stage of childhood, the liver, by its enormous size—(more than twice in proportion to that of the man)—possesses advantages in dealing with starches, which are unavailable to later life. Of the cereals, wheat and rye—owing to their nuclear compactness—most readily lead to nutritional excess. Hence, whenever it is possible or practical, these grains should be substituted by baked pota-

toes, pumpkins, rice, oats, groats, corn, lentils, peas and occasionally—as in the low temperature of the north—the dry lima or navy bean. A rule, however, never to be forgotten, is to refrain from adding sugar to starches in any form.

6—Quick guide to hygienic food combinations.

The preceding bill of fare is not formulated to be followed with dogmatic precision. Its object is to establish principles of practical application, so as to be readily grasped by the reader. The points, however, that should be strictly observed in any combination of food-stuffs, are to avoid milk as a table beverage, and fruit in combination with meat, boiled cereals, or vegetables. On the other hand, fruit may be combined with cheese, dextrinated, i. e., hard-toasted or twice-baked bread, raw starch-free vegetables, and even with cow's milk—providing the latter is taken alone, blood-warm, at a time when the stomach is empty. The milk should be slowly sipped, and followed by the fruit, with an interval of some five or ten minutes. As further important restrictions, it should be mentioned not to take cooked fruit and cooked vegetables at the same meal, nor two starches in the form of potatoes, bread or mushes in combinations at one meal. Hence, bread and mush, bread and potatoes, bread and rice, etc., by virtue of their incompatibility and excess, will give

distress to the weak stomach. Animal fats, pork, lobster (all shell fish)—the meat of the latter being poisoned by their character as scavengers—veal (being unripe meat), and asparagus (an unripe vegetable), should be avoided in the careful diet.

7—The role of bread in the bill-of-fare.

Bread has been omitted as much as possible in our bill-of-fare, owing to the fact that as a rule the American people are habitually addicted to too much cereal food-stuff, either in the form of bread, mushes or pastries. The great prevalence of catarrh in this country, which involves almost every organ and function of the body, including vision, hearing, digestion, assimilation, etc., is in itself an evidence that starch holds at present an altogether too high percentage of use in the dietary of the majority of people. The bread recommended in this bill-of-fare is the whole wheat—not the “graham,” “cracked,” “sun-baked” or “unfired” bread preparations. Being practically intractable to nutrition and digestion, these latter preparations retain their coarse quality in the stomach and intestinal canal, where its sharp, non-reducible grain-crystals proceed to plow, like soil-cultivators, through the sensitive mucuous lining, to sooner or later give rise to gastric and intestinal cramps and nervous spasms, owing to the soreness and ulceration of the lacerated

tissues. It is the very irritation, due to this internal lashing of the peristaltic nerves, that occasions the increased bowel activity, which is held up as a cure of constipation.

8—Individuality in diet.

No treatise on diet will accomplish its task, with less appreciated and applied individuality. For, after all, the last word on diet must accept individuality as a determining factor in any successful application of dietetic principles. Individual differences count heavily in the results obtained through even the most carefully selected and scientifically determined diet. And as the mind holds the key to individuality, and determines its fluctuations, it follows that a rule of greatest importance to be observed, is to remove, from the field of diet, any mental influence arising from personal emotions. The mind plays upon the vital functions of the body as a player upon his instrument, and may introduce with the same effectiveness, the harmonies or discords, which, related to the body, mean health or disease. Mental processes such as anger, envy jealousy, hatred, fear, worry, passionate desires, etc., generate vibrations in the nervous system that are transmitted to the functional centers of the general metabolism, and more or less disastrously interfere with digestion and nutrition. Harmony of mind and body, in thought, word and

act, holds the keyboard of life, by and through which the creative forces of health, strength and beauty are diffused and assimilated throughout the human organism. It is only through a harmonious attitude to life that the universality of a remedy, can adjust itself to the individuality of its application.

Furthermore, in its relation to specific foodstuffs such as sweets and acids, the force of individuality must be closely reckoned with. As the nervous individual, by virtue of his high-tensioned, short-circuited polarization, generates a larger percentage of body acidity than the quiet, self-possessed and slow-moving constitution, it follows that the amount of acid which would be beneficial and constructive to the latter, might prove destructive to the former. Hence, it cannot be too emphatically pointed out, that a system of diet, though successful to one patient, should not be regarded as a panacea for every other sufferer, even when the symptoms of the diseases are identical. The theoretical value of a remedy lies, undoubtedly, in the nature of the remedy itself, but its practical value and success, must be looked for in the relation it occupies to the constitutional peculiarities of the patient.

9—Quantity and quality in diet.

The question of quantity and quality in diet is very closely related to the question of individuality in diet, and must largely be

solved on that basis. There is no doubt that errors with regard to the quantity of food are no less disastrous than errors with regard to the quality—though the cause, as well as remedy, for the former, must be looked for in the condition and attitude of individuality and moral will.

In cases, however, of chronic dyspepsia and dilated stomach, when the latter through a long chain of dietetic abuses, has been perverted into a state of functional aberrations, and may clamor for renewed supplies of nourishment, even at a point of virtually bursting with undigested foodstuffs—the error may be more of judgment than of will. In this case, the remedy, and the only remedy, lies in the close observation of definite, well-ascertained dietetic rules, carried into practice, with utter disregard for the abnormal cravings of the irritated, nerve-racked and unbalanced stomach.

According to the latest statements of the science of Physiology, the supply of proteid foods (muscle-builders), required by the average individual to sustain his daily wear and tear of muscle tissue, does not exceed three ounces. Practically applied to our general elements of diet, this means that the daily sum-total of our proteid-bearing foods, such as egg and meat, should not exceed five ounces.

It is chiefly in an excess of the above named foods that the danger of over feeding

threatens. After a long series of experimentations and test-cases, Prof. Crittenden of Yale University, has authorized the statement that twelve ounces of cereals, counting as such every form of bread, mush, biscuits, etc., should constitute the limit of a day's supply of grain. It is safe to say that two thin slices of bread at each meal, or the equivalent in other forms of cereals, should amply supply the daily needs of that type of food for any ordinarily active organism.

The absence of sugar, and preparations of fruit-preserves at the dining table, minimizes the danger of overeating. There is no greater tempter to gluttony than sweets in any form, and without the stimulation of the latter, the abnormal craving due to the irritating condiment, will soon give way to a calm, natural state of gastric sensation, with an appetite expressing only the true nutritional needs of the system. The line of safety in matters of diet must always be found on the minimum rather than the maximum side of quantity—even at running the risk of under-eating. As expressed by Oliver Wendall Holmes—himself a physician—"A person seldom has cause to regret that he eats too little." The small meal, well masticated, has twice the nutritional value of the larger meal, hastily and carelessly gulped down.

Nor should the principle of vital expense, as involved in digestion, be left out of con-

sideration in determining the quantity and quality of food. Digestion means physiological expenditure, which in an elaborate, incongruously mixed and carelessly masticated dinner, may exceed the entire nutritional value of the meal! The saving of vitality in relation to digestion may often mean more to the generation and preservation of efficiency, than a reckless indulgence in high-nutritional, but stomach-distressing foodstuffs. It is not what we eat, that determines our health and vital powers, but what we assimilate under least functional distress and expenditure. The key to the quantity and quality of diet lies in a careful maintenance of balance between the maximum of nourishment and the minimum of digestive labors, coupled with a menu derived from natural, non-concentrated, non-extracted and non-sweetened foodstuffs.

10—The problem of salt in diet.

The complex action which salt exerts upon our bodies can be expressed only in its relation to the temperament and condition of the individual who uses it. An elemental stimulant, salt has a stirring and stimulating effect on the system, and should, therefore, be used only in combination with foods which have lost their native salt-stimulation through some devitalizing process, like cooking; or by persons whose sluggishness of digestion and general low tone of innervation, may require

the stirring, promoting action of the saline principle. But the same impulse which acts as a helpful stimulant for the sluggish becomes a lashing irritant to the already over-stimulated and nervous; while, furthermore, the increase of assimilative effectiveness given by the action of salt to foods, devitalized through cooking, if applied to fresh, uncooked foods, will revert into an excess of digestive stimulation, and become a disturbing irritant in place of a physiologival promoter of the activities.

For the value of salt as an assimilative agent is lost, or perverted, the moment we indulge in it to excess. When more salt is taken into our system than its cellular activities can evaporate or eliminate, a crystalization takes place, which, if permitted to increase, gradually leads to a chronic sluggishness and stagnation of the circulation, accompanied by a stiffness of joints, hardening of tissues, rheumatic pains, and the general symptoms of premature old age.

This behavior of salt has an explanation in its unique position of being at once a solid and a fluid—at one pole crystalizing, and at the other evaporating. Through this dual action of its molecules, salt keeps up the endless chain of ascending and descending waters; of the ocean evaporating into clouds, and the subsequent precipitation of the latter into rain—again to return to the ocean. The

crystalization at its base, causes evaporation at the surface of its medium, whether the latter consists in the major processes of atmospheric exchanges, or in the minor processes of conservation and preservation of foodstuffs . The same elemental principle is at work—the constantly stirring, changing, promoting action of the salt, making stagnation and decomposition of its media impossible.

Now, salt as an element in our diet depends for its usefulness or physiological legitimacy on the condition of the food, and the temperament of the individual. In their fresh, natural, un-cooked state no foods should be seasoned. Grains, vegetables, fruits, come to us from the great laboratory of elemental nature, completely equipped with powers to adjust themselves to the functional needs and necessities of human physiology, and its chemistry of digestion and assimilation. Hence, to add salt to raw food, creates an over-plus of functional action, and an excess of enervation, which, by adding undue momentum to the digestive processes, in place of being a physiological stimulant—as in the case of cooked foodstuffs—becomes a downright pathological irritant.

The same restriction, or proviso, is placed on the employment of salt in relation to individuality. The nervous temperament, being of the electric type, possesses in its own con-

stitutional make-up sufficient energy and cellular momentum to furnish its own functional promotion. Hence, this class of people, to avoid interior irritation and subsequent increase of nervousness, should be very careful in their use of salt, even in relation to cooked food.

On the other hand, the type of diseases generated by an excess of salt in diet, is not found in afflictions of the nerves, but of the muscles; not in neuralgia, neuritis, or any neurotic type, but in rheumatism, lumbago, sciatica and general muscular hardenings. The pathology of the nerves is referable to constitutional, bacterial acidity—organized acids—the pathology of the muscles to saline crystallization. Hence, if nervousness is manifested in specific functional, especially digestive, disorders—saline solutions, both in external and internal applications, are valuable correctives. In cases of catarrh, which is also a disease of nervous functioning, the free use of salt, both internally and externally—both as nasal douch, mouth wash, rectal infusion, and as internal medicine (in the latter case, one-half teaspoon of salt, dissolved in a glass of water, taken early in the morning, substituted twice a week by a glass of diluted lemon juice) is of great value to a catarrh-infected system.

11—Yoghurth, and its dietetic significance

Though Professor Metchnikoff originally introduced “yoghurth” as an antidote against

the putrefactive bacteria of the human colon, he soon realized that the microbe-killer, inoculated in the system by the "yougurth," after having succeeded in cleaning out the native microbe of the intestine, proved to be a more difficult and dangerous tenant to handle than the one gotten rid of. In other words, the "yougurth" microbe holds the same relation to the cells and tissues of the human organism as the English sparrow to the Australian grain fields, where it had been sent to clean out the bugs and worms that menaced the seed. When the worms were gone, however, the sparrow, to sustain its own existance, proceeded to attack the grain itself, and thus became a far greater menace to the farmer than the old worm.

This practice of inoculating the human system with organized, laboratory-hatched microbe-killers, whether in the form of beverages, inhalations or serums, is a very costly business to the economy of human physiology. Partly because of the fact that the torn and racked body has to provide the battle field for the contending forces, and, partly because of having to sustain the invading army of conquest after the native enemy is routed—the drain of the alien occupation is experienced by the system in loss of strength, progressive breakdown and premature old age.

And this in the teeth of the fact that nature has provided the human organism with a

“physiological defense,” an “opsonic” reserve force, represented in the constitutional virility of every single cell of the body, in every speck of lymph in the tissues and in the mystic secretions of every “ductless” gland. In other words, the body is a commonwealth, equipped with a militia of organized protection, perfectly adequate to maintain its own defense, providing its government is maintained on a basis of natural and moral laws, and in conformity to the eternal principles of love and labor, which God has placed in the construction of the world for the guidance of humanity.

Be careful, not only of what goes out of your mouth, but of what goes into it. It is not the introduction into our system of alien uncontrollable agencies of complex serums that the individual requires for his continued growth in health and survival value, but the command of himself and a faith in the powers that work through him.

12—The “Dreadnaught”—Stimulant

The ruling stimulant of the world today is not the coffee, tea, beer nor even whisky—but the innocent-looking, pleasant-tasting, alluring white powder known as sugar. Its stimulating power is greater than that of the alcohol, because it is the parent and generator of the alcohol.

Candy, says Dr. Woods-Hutchinson, is good for children because it generates energy, and energy is needed at that age. Yet the energy which candy brings to the body is very much like the energy which the whip brings to a horse. In either case the system, in its response to the irritation, has received nothing from without, but spends its own constitutional energy, derived from its own cellular storage batteries.

As a fuel in the human furnace, sugar explodes rather than burns. Like a wild fire it leaps through the organism along the different nerve conduits, up and down the pneumogastric connections to the head, lungs and heart, while the vital detonations send ganglionic shocks to every general or specific center of sensation—from the hair follicles of the scalp, tympanum of the ear, optic nerve of the eye, to the sciatic of the leg—lashing the involved functions into a convulsive activity, which is interpreted as strength and virility, but in reality is a deep-wrought vital loss to the system. For, like money, energy manifests only in its spending—not in its making.

When sugar, and with sugar is meant its extracted form, not as it is found in the fruit, comes in contact with starch or proteids in the stomach, it brings about the same chemical processes as when that combination occurs in the brewery or distillery. It starts series of fermentation, which means a breaking down

of oxygen and carbon and a setting free of alcohol and carbon dioxide. Being thus bathed in alcohol, the nerves become intoxicated and the individual imbued with that feeling of power and efficacy, characteristic to the opening movement of a spree.

It is the general rush of the oxygen of the system to the field of the vital combustion, with the subsequent rapidity of cellular exchange and enforced metabolism, that gives rise to the feeling of strength experienced from the use of candy—a feeling which is identical in type and process with that from indulgence of liquor and accountable for the same habitual craving. Failure to supply the want means weakness and feeling of collapse; hence the almost irresistible craving experienced by the candy habitue.

In the light of these observations we can grasp the significance of the statement made in a newspaper a couple of days ago, that the co-eds of the Southern California university consumed seven tons of candy during their last term, which, distributed on each one of the girl students, would correspond to her own weight. It will also shed light on another phenomena in our present life: that seventy-five per cent of our school children suffer from incipient heart failure and the remaining percentage from visional breakdown.

13—Dietetic “don’ts.”

AVOID—

Fruit with vegetables.
Fruit with cereals.
Fruit with meat.
Mixtures of raw and cooked vegetables.
Mixtures of raw and cooked fruits.
Potatoes in any other form than baked.
Cereals and potatoes at the same time.
Bread and mushes at the same meal.
Drinking at meals.
Extracted, concentrated or fermented
 foodstuffs. Alcoholic beverages.
Smoked, pickled or potted preparations.
Sifted, shortened, spiced breadstuffs.
Animal fats, gravies, soups.
Milk with meat.
Nuts with meat or eggs.
Milk with vegetables.
Salmon, eel, lobster, oysters, shrimp.
Veal, duck, pork, mushrooms, peanuts.
Dry beans—but in the form of puree.
Candy or pastry in any form.
Meat in any combination other than that of
 non-starch vegetables.

SUGAR AND SALT

FOODS, POISONS

BY

DR. AXEL EMIL GIBSON
LOS ANGELES, CALIFORNIA

**Author of "Prolonging Life Through Diet," "Individuality and Diet," "The Race of Life and How to Win It,"
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FOOD OR POISONS

Dietetic Qualities of Sugar and Salt Discussed

It is seldom the case that you find a writer on either salt or sugar—especially salt—that is unbiased or unprejudiced; therefore, when I come across an author, a man of wide experience, of profound thought, a doctor—not a mere layman—who gives both sides of the question without forcing his opinion upon you, but allowing you to do a little thinking on the side, it gives me unbounded pleasure to commend such a one to the reading public. I refer to Dr. Axel Emil Gibson of this city, author of "Sugar and Salt—Foods or Poisons?"

In a previous article I reviewed his excellent book on "Prolonging Human Life Through Diet," and I am quite sure that those who were so fortunate as to secure a copy will not delay in securing this latest effort as a companion to the former one.

Neither of these books is intended for mere cursory reading and then be put away, but the more important passages should be marked and the books left on the reading stand or library table for ready reference and the re-reading of the marked passages. It is only in this way that you can refunction the brain cell and thus utilize the knowledge obtained.

I cannot resist the temptation of quoting one passage showing wherein sugar is a food and wherein it is a poison. The strict adherence to this principle, observing the caution herein named, may be the means of averting a severe headache, indigestion or bilious attack.—Edward B. Warman, A. M., in Health Dept., Los Angeles Times.

Sugar and Salt—Foods or Poisons? by Dr. Axel Emil Gibson. Los Angeles, Cal.

In this book Dr. Gibson has made a startling attempt to solve, on a scientific basis, the problem of salt and sugar, in the seemingly contrary influence of

these elements on the human body. The books forms a new chapter in the romance of science, and though bristling with scientific postulates, its force of logic, and clearness of reasoning, gives to its reading the charm and interest of a story. In its thirty-four chapters the reader will find unsuspected informations concerning the practical, medicinal value contained in a judicious use of sugar and salt.

The book has 135 pages, large size, elegantly bound, and contains a portrait of the author.—“Health Culture Magazine.”

.....Dr. Gibson shows a great command of language. He writes in a scholarly style. “Sugar and Salt” is his latest work, and forms a valuable contribution to the literature of diet, on which subject so much that is superficial and false is offered to a long-suffering public. It contains a portrait of the author. From Dr. Harry Ellington Brook, in “Brain and Brawn:”

Sugar and Salt—Foods or Poison? by Dr. Axel Emil Gibson, \$1.20.

“Sugar and salt are the symbols of man’s dual evolution. As servants, they raise him in the scale of life and power; as masters they destroy him. ‘At the gate of every Eden hangs a two-edged sword,’ said Mohammed. In the Eden of health, this sword is represented by the quality of sugar and salt.” So writes Dr. Gibson in this well-reasoned presentation of facts connected with the use and abuse of these two articles of every-day use. People often wonder why, if they eat too much sugar or salt with their meals that their sense tells them that they have over-indulged. This wise book, of 130 pages, will show what has happened. It is demonstrated that salt and sugar are sometimes foes to the human race, and sometimes friends.—“Portland Oregonian.”

Dear Dr. Gibson:

. . . . You have written a splendid book which ought to give you a lot of well-earned reputation. The public needs a clearly defined understanding of the relation of their health to sugar and salt.

Yours very truly,
J. H. TILDEN, Denver, Colo.

Have read your book on "Sugar and Salt." It is excellent and proves a profound knowledge of the subject. Never read anything like it on the subject before, though so much has been written and spoken in regard to it. In your brilliant book I find the rock bottom truth of the whole matter.

From DR. ALFRED METZNER, Jordan Sanitarium,
Jordan, Minn.

Dear Dr. Gibson:

Your latest work, "Sugar and Salt," is a rare combination of the latest in science as applied to matters of vital interest, and told in a peculiarly pleasing way.

Faithfully,
LUTHER BURBANK.
Los Gatos, Cal., Feb. 10, 1914.

Dr. Axel Emil Gibson:

Dear Sir: Your very interesting and ingenious book on "Sugar and Salt—Foods or Poisons" contributes valuable and intelligible facts concerning ailments which are causing too much of the disease of our time. Your careful work should receive the attention of every one who is interested in continued health and well-being. May the mission of your writings continue to do good.

Yours truly,
A. J. GERLACH, B. L., M. A.

Dr. Axel Emil Gibson, a recognized authority on diet, has brought out a new book entitled, "Sugar and Salt—Foods or Poisons?" It is, probably, the most

complete treatise on these articles ever published. He treats not only of the chemical constituents of these articles and their effect upon the physical system, but he also shows the effect upon the intellectuality and the morals of the consumer.—“Hygienic and Dietetic Gazette,” New York City.

“Sugar and Salt—Foods or Poisons?” by Dr. Axel Emil Gibson (Los Angeles, \$1.20), is a book on an important subject that should be of wide interest. Nearly everything that we have seen heretofore upon the subjects of sugar and salt has been of a controversial nature, since most writers start out upon their investigations predetermined to defend or condemn. The present author, however, has taken up his subject in a wholly impartial and scientific spirit. He undertakes to show the value of sugar and of salt, the conditions under which they are helpful and valuable, even life-saving agencies, and also the conditions under which they are detrimental. He lays stress upon the differences between sugar as a natural product (as in fruits) and sugar as an extract. It is in the latter form that it shows its destructive phase, according to Dr. Gibson, though he also takes pains to emphasize the fact that even the extracted sugar has its value under certain conditions. He discusses sugar in relation to the expenditure of muscular labor, as a fat-former, as a poison, as a medicine, and as a source of immediate energy in an emergency. In a similar way he takes up the question of salt, what it is, its purpose and the conditions under which it is beneficial and detrimental.—Physical Culture Magazine, New York.

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